SONY

TRINITRON® COLOR VIDEO MONITOR

BVM-D14H1A CHASSIS NO. SCC-P31A-A

BVM-D14H1E CHASSIS NO. SCC-G10B-A

BVM-D14H1U CHASSIS NO. SCC-G09D-A

BVM-D14H5A CHASSIS NO. SCC-P31B-A

BVM-D14H5E CHASSIS NO. SCC-G10C-A

BVM-D14H5U CHASSIS NO. SCC-G09E-A

HD Trinitron

Multiformat

MAINTENANCE MANUAL

1st Edition

Serial No. 2000001 and Higher (ALL MODELS)

⚠WARNING

This manual is intended for qualified service personnel only.
To reduce the risk of electric shock, fire or injury, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. Refer all servicing to qualified service personnel.

⚠WARNUNG

Die Anleitung ist nur für qualifiziertes Fachpersonal bestimmt.
Alle Wartungsarbeiten dürfen nur von qualifiziertem Fachpersonal ausgeführt werden. Um die Gefahr eines elektrischen Schlages, Feuergefahr und Verletzungen zu vermeiden, sind bei Wartungsarbeiten strikt die Angaben in der Anleitung zu befolgen. Andere als die angegeben Wartungsarbeiten dürfen nur von Personen ausgeführt werden, die eine spezielle Befähigung dazu besitzen.

⚠ AVERTISSEMENT

Ce manual est destiné uniquement aux personnes compétentes en charge de l'entretien. Afin de réduire les risques de décharge électrique, d'incendie ou de blessure n'effectuer que les réparations indiquées dans le mode d'emploi à moins d'être qualifié pour en effectuer d'autres. Pour toute réparation faire appel à une personne compétente uniquement.

WARNING!!

AN INSULATED TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS.
THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY A ⚠ MARK ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

ATTENTION!!

AFIN D'ÉVITER TOUT RISQUE D'ÉLECTROCUTION PROVENANT D'UN CHÂSSIS SOUS TENSION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÉ LORS DE TOUT DÉPANNAGE.
LE CHÂSSIS DE CE RÉCEPTEUR EST DIRECTEMENT RACCORDÉ Á L'ALIMENTATION SECTEUR.

ATTENTION AUX COMPOSANTS RELATIFS Á LA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÉS PAR UNE MAPQUE ⚠ SUR LES SCHÉMAS DE PRINCIPE, LES VUES EXPLOSÉES ET LES LISTES DE PIECES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT. NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÉRO DE PIÈCE EST INDIQUÉ DANS LE PRÉSENT MANUEL OU DANS DES SUPPLÉMENTS PUBLIÉS PAR SONY. LES RÉGLAGES DE CIRCUIT DONT L'IMPORTANCE EST CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT SONT IDENTIFIÉS DANS LE PRÉSENT MANUEL. SUIVRE CES PROCÉDURES LORS DE CHAQUE REMPLACEMENT DE COMPOSANTS CRITIQUES, OU LORSQU'UN MAUVAIS FONCTIONNEMENT EST SUSPECTÉ.

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SONY

TRINITRON® COLOR VIDEO MONITOR

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BVM-D9H5J/D9H5U/D9H5E/D9H5A
BVM-D14H1J/D14H1U/D14H1E/D14H1A
BVM-D14H5J/D14H5U/D14H5E/D14H5A

HR Trinitron
Multiformat

OPERATION MANUAL Japanese/English
1st Edition
Serial No. 2000001 and Higher

Section 1
Operating Instructions

This section is extracted from operation manual.

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

AVERTISSEMENT

Afin d'éviter tout risque d'incendie ou d'électrocution, ne pas exposer cet appareil à la pluie ou à l'humidité.

Afin d'écarter tout risque d'électrocution, garder le coffret fermé. Ne confier l'entretien de l'appareil qu'à un personnel qualifié.

WARNUNG

Um Feuergefahr und die Gefahr eines elektrischen Schlages zu vermeiden, darf das Gerät weder Regen noch Feuchtigkeit ausgesetzt werden.

Um einen elektrischen Schlag zu vermeiden, darf das Gehäuse nicht geöffnet werden. Überlassen Sie Wartungsarbeiten stets nur einem Fachmann.

ADVERTENCIA

Para evitar incendios o el riesgo de electrocución, no exponga la unidad a la lluvia ni a la humedad.

Para evitar descargas eléctricas, no abra la unidad. En caso de avería, solicite los servicios de personal cualificado.

ATTENZIONE

Per evitare incendi o cortocircuiti, l'apparecchio non deve essere esposto alla pioggia o all'umidità.

Per evitare scosse elettriche, non aprite l'apparecchio. Per le riparazioni rivolgetevi solo a personale qualificato.

CAUTION:
Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

ATTENTION
Il y a un risque d'explosion si la pile est mal insérée. Remplacer la pile uniquement par une pile de même type ou de type équivalent recommandé par le fabricant. Jeter les piles usées conformément aux instructions du fabricant.

VORSICHT:
Es besteht Explosionsgefahr, wenn die Batterie inkorrekt eingelegt wird.
Es darf nur eine identische oder eine vom Hersteller empfohlene Batterie des gleichen Typs eingesetzt werden. Entladene Batterien sind nach den Anweisungen des Herstellers zu entsorgen.

PRECAUCION
Peligro de explosión en caso de haberse instalado incorrectamente la betería.
Cambie sólo por una del mismo tipo o especificaciones equivalentes, de entre las recomendadas por el fabricante. Las baterías viejas se deben eliminar siguiendo las instrucciones del fabricante.

ATTENZIONE:
Pericolo di esplosione se la pila viene sostituita scorrettamente.
Sostituirla solo con un'altra uguale o di un tipo equivalente consigliato dal fabbricante. Gettare via le pile usate secondo le istruzioni del fabbricante.

Note
The socket-outlet should be installed near the equipment and be easily accessible.

Remarque
La prise doit être près de l'appareil et facile d'accès.

Hinweis
Zur Trennung vom Netz ist der Netzstecker aus der Steckdose zu ziehen, welche sich in der Nähe des Gerätes befinden muß und leicht zugänglich sein soll.

Nota
La toma mural debe estar instalada cerca del equipo y debe accederse a ésta con facilidad.

Nota
La presa di corrente deve essere situata vicino all'apparecchio e deve essere facilmente accessibile.

For customers in the USA
(BVM-D9H1U/D9H5U, BVM-D14H1U/D14H5U)
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

The shielded interface cable recommended in this manual must be used with this equipment in order to comply with the limits for a digital device pursuant to Subpart B of Part 15 of FCC Rules.

Für Kunden in Deutschland
Entsorgungshinweis: Bitte werfen Sie nur entladene Batterien in die Sammelboxen beim Handel oder den Kommunen. Entladen sind Batterien in der Regel dann, wenn das Gerät abschaltet und signalisiert "Batterie leer" oder nach längerer Gebrauchsdauer der Batterien "nicht mehr einwandfrei funktioniert". Um sicherzugehen, kleben Sie die Batteriepole z.B. mit einem Klebestreifen ab oder geben Sie die Batterien einzeln in einen Plastikbeutel.

Voor de klanten in Nederland

Bij dit produkt zijn batterijen geleverd. Wanneer deze leeg zijn, moet u ze niet weggooien maar inleveren als KCA.

- Dit apparaat bevat een Li-ion batterij voor memory back-up.
- De batterij voor memory back-up is vastgesoldeerd op de MA printplaat BT1.
- Raadpleeg uw leverancier over de verwijdering van de batterij op het moment dat u het apparaat bij einde levensduur afdankt.
- Gooi de batterij niet weg, maar lever hem in als KCA.

För kunderna i Sverige
Apparaten ma kun tilkoples jordet stikkontakt

For kunder i Norge
Apparatet må kun tilkoples jordet stikkontakt

For the customers in Europe
(BVM-D9H1E/D9H1A/D9H5E/D9H5A, BVM-D14H1E/D14H1A/D14H5E/D14H5A)
This product with the CE marking complies with both the EMC Directive (89/336/EEC) and the Low Voltage Directive (73/23/EEC) issued by the Commission of the European Community.
Compliance with these directives implies conformity to the following European standards:
- EN60950: Product Safety
- EN55103-1: Electromagnetic Interference (Emission)
- EN55103-2: Electromagnetic Susceptibility (Immunity)

This product is intended for use in the following Electromagnetic Environment(s):
E1 (residential), E2 (commercial and light industrial), E3 (urban outdoors) and E4 (controlled EMC environment, ex. TV studio).

Pour les clients européens
(BVM-D9H1E/D9H1A/D9H5E/D9H5A, BVM-D14H1E/D14H1A/D14H5E/D14H5A)
Ce produit portant la marque CE est conforme à la fois à la Directive sur la compatibilité électromagnétique (EMC) (89/336/CEE) et à la Directive sur les basses tensions (73/23/CEE) émises par la Commission de la Communauté européenne.
La conformité à ces directives implique la conformité aux normes européennes suivantes:
- EN60950: Sécurité des produits
- EN55103-1: Interférences électromagnétiques (émission)
- EN55103-2: Sensibilité électromagnétique (immunité)

Ce produit est prévu pour être utilisé dans les environnements électromagnétiques suivants:
E1 (résidentiel), E2 (commercial et industrie légère), E3 (urbain extérieur) et E4 (environnement EMC contrôlé ex. studio de télévision).

Für Kunden in Europa
(BVM-D9H1E/D9H1A/D9H5E/D9H5A, BVM-D14H1E/D14H1A/D14H5E/D14H5A)
Dieses Produkt besitzt die CE-Kennzeichnung und erfüllt sowohl die EMV-Direktive (89/336/EEC) als auch die Direktive Niederspannung (73/23/EEC) der EG-Kommission.
Die Erfüllung dieser Direktiven bedeutet Konformität für die folgenden Europäischen Normen:
- EN60950: Produktsicherheit
- EN55103-1: Elektromagnetische Interferenz (Emission)
- EN55103-2: Elektromagnetische Empfindlichkeit (Immunität)

Dieses Produkt ist für den Einsatz unter folgenden elektromagnetischen Bedingungen ausgelegt:
E1 (Wohnbereich), E2 (kommerzieller und in beschränktem Maße industrieller Bereich), E3 (Stadtbereich im Freien) und E4 (kontrollierter EMV-Bereich, z.B. Fernsehstudio)

ATTENTION - When the product is installed in a rack:

a) Elevated operating ambient temperature
If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the manufacture's maximum rated ambient temperature (Tmra: 0°C to 35°C (32°F to 95°F)).

b) Reduced air flow
Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.

c) Mechanical loading
Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

d) Circuit overloading
Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of circuits might have on overcurrent protection and supply wiring.
Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

e) Reliable earthing
Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g., use of power strips).

f) Gap keeping
Upper and lower gap of rack-mounted equipment should be kept at least 44 mm (1 ¾ inches).

For the customers in the United Kingdom (BVM-D9H1E/D9H1A/D9H5E/D9H5A, BVM-D14H1E/D14H1A/D14H5E/D14H5A)

WARNING
THIS APPARATUS MUST BE EARTHED

IMPORTANT
The wires in this mains lead are coloured in accordance with the following code:

Green-and-yellow:	Earth
Blue:	Neutral
Brown:	Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:
The wire which is coloured green-and-yellow must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol ⏚ or coloured green or green-and-yellow.
The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

Ensure that your equipment is connected correctly - if you are in any doubt consult a qualified electrician.

Achtung - bei Installation des Geräts in einem Gestell:

a) Erhöhte Umgebungstemperatur bei Betrieb
Wird das Gerät in einem geschlossenen Gestell oder einem Gestell mit mehreren anderen Geräten installiert, kann die Umgebungstemperatur um das Gestell höher sein als die normale Umgebungstemperatur im Raum. Achten Sie daher bitte besonders darauf, das Gerät in einer Umgebung zu installieren, in der die Temperatur nicht über die vom Hersteller angegebene Umgebungstemperatur von 0 bis
35 °C (32 °F bis 95 °F) ansteigt (Tmra).

b) Reduzierte Belüftung
Das Gerät muß so im Gestell installiert werden, daß eine Belüftung gewährleistet ist, die für den sicheren Betrieb des Geräts erforderlich ist.

c) Mechanische Belastung
Das Gerät muß so im Gestell installiert werden, daß nicht durch eine ungleichmäßige mechanische Belastung Unfallgefahr entsteht.

d) Überlastung der Stromkreise
Der Anschluß des Geräts an das Versorgungsnetz erfordert sorgfältige Planung. Bitte beachten Sie insbesondere die Auswirkungen, die eine Überlastung der Stromkreise im Hinblick auf den Überspannungsschutz und die physischen Komponenten des Versorgungsnetzes haben kann.
Beachten Sie in diesem Zusammenhang unbedingt die Angaben auf dem Typenschild am Gerät.

e) Zuverlässige Erdung
Geräte, die in einem Gestell installiert werden, benötigen eine zuverlässige Erdung. Achten Sie insbesondere auf Anschlüsse an das Versorgungsnetz, die nicht direkt an einen Abzweigstromkreis, sondern indirekt, zum Beispiel über Verlängerungskabel, erfolgen.

f) Erforderliche Abstände
Halten Sie zur Ober- und Unterseite eines in einem Gestell installierten Geräts einen Abstand von 44 mm (1 ¾ inches) ein.

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Precautions

On safety

- Operate the unit only with a power source as specified in “Specifications” section.
- The nameplate indicating operating voltage, power consumption, etc., is located at the rear.
- Should any solid object or liquid fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Do not drop or place heavy objects on the power cord. If the power cord is damaged, turn off the power immediately. It is dangerous to use the unit with a damaged power cord.
- Unplug the unit from the wall outlet if it is not to be used for several days or more.
- Disconnect the power cord from the AC outlet by grasping the plug, not by pulling the cord.
- The socket-outlet shall be installed near the equipment and shall be easily accessible.
- Use the supplied AC adaptor for the BVM-D9H1U/D9H1E/D9H1A/D9H5U/D9H5E/D9H5A models only. It is dangerous to use the AC adaptor for models other than these.

On installation

- Allow adequate air circulation to prevent internal heat build-up.
  Do not place the unit on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation holes.
- Do not install the unit in a location near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.

On mounting the rack

When the monitor is mounted on the rack, the proximity of other equipment or a decrease in air circulation may cause heat to build up inside the monitor. Therefore, when mounting the monitor on the rack, ensure there is an adequate opening for ventilation or install a fan. The following operating conditions are needed:
Temperature: 0°C to 35°C (32°F to 95°F),
Optimum temperature: 20°C to 30°C (68°F to 86°F)

On the battery (BVM-D9H1U/D9H1E/D9H1A/D9H5U/D9H5E/D9H5A only)

The MAIN POWER switch is not supplied with the above models. Therefore, when the power is turned off with a battery installed, the monitor is set to standby mode and a small amount of power is consumed. When the monitor is not used for a long period, remove the battery.

On cleaning

To keep the unit looking brand-new, periodically clean it with a mild detergent solution. Never use strong solvents such as thinner or benzine, or abrasive cleansers since they will damage the cabinet. As a safety precaution, unplug the unit before cleaning it.

On repacking

Do not throw away the carton and packing materials. They make an ideal container which to transport the unit.
If you have any questions about this unit, contact your authorized Sony dealer.

On magnetism

- Do not place the unit near any objects or pieces of equipment which generate magnetism, such as magnets, speakers, electric clocks, toys using magnets, health appliances, etc. Magnetism will cause picture bounce, oscillations or picture discoloration.
- Also, the picture may become fuzzy or the colors may not reproduce correctly due to earth magnetism. This depends on direction that the unit is installed. This is not equipment failure. In such a case, simply degauss the unit.

On the CRT

- Dust accumulates on the CRT easily. Clean the CRT when necessary with a soft cloth.
  The surface of the CRT is easily scratched; therefore, do not rub or touch the surface of the CRT unnecessarily since this may result in a scratched picture tube.
- If you touch the surface of the CRT, you may feel a weak electrical shock. This is simply static electricity that is generated on the surface of the CRT. It will not affect the human body.

On using as the monitor for 4:3 signals

The 16:9 mask is installed at the factory. When the display is set to the 4:3 aspect ratio, the upper and lower portions of the display are masked and you cannot view the upper and lower portions of the picture. Therefore, when you want to display the picture in 4:3 aspect ratio, install the supplied 4:3 mask.

Overview

The BVM-D9H1U/D9H1E/D9H1A/D9H5U/D9H5E/D9H5A are 9 -inch Trinitoron®[1] Color Monitors. The BVM-D14H1U/D14H1E/D14H1A/D14H5U/D14H5E/D14H5A are 14-inch[2] Trinitoron® Color Monitors.

Features

Multiformat

The monitor supports the principal format (480I/480P/720P/1080I) for the digital broadcasts, NTSC and PAL color systems, and a wide variety of signals[3] whose horizontal frequency is between 15 kHz and 45 kHz.

High resolution picture tube

The HR Trinitron picture tube produces a clear, high resolution image.

Model	Aperture grille pitch	Resolution at the center of the picture
BVM-D9H1U/ D9H1E/D9H1A/ D9H5U/D9H5E/ D9H5A	0.25 mm	450 TV lines (4:3) 340 TV lines (16:9)
BVM-D14H1U/ D14H1E/D14H1A/ D14H5U/D14H5E/ D14H5A	0.25 mm	800 TV lines (4:3) 600 TV lines (16:9)

Separate control unit (BVM-D9H1U/D9H1E/D9H1A/D14H1U/D14H1E/D14H1A)

Using a separate control unit reduces the space needed for the equipment.
The monitor is controlled by a separate control unit, such as an optional BKM-10R/11R Monitor Control Unit or by daisy chain connections.

Controlling monitor groups

Up to 32 monitors can be controlled from one control unit by the RS-485 serial remote connections. You can control individual monitors or monitor groups simply by entering monitor address or group numbers. You can also execute the same operation on all connected monitors, or put all connected monitors into the same setup and adjustment state.

Auto chroma phase and white balance functions

The chroma and phase of the decoder are automatically adjusted with the auto chroma phase function and the color temperature is automatically adjusted with the auto white balance function by using the BKM-14L Auto Setup Probe, etc.

4:3 area marker

It is possible to check the 4:3 aspect area in the 16:9 picture by displaying the 4:3 marker.

Expandable input capability

You can obtain HD SDI signals, D1 SDI signals, NTSC/PAL signals or YP_BP_R/RGB signals by installing the optional input adaptors at the rear of the monitor. The input connector configuration can be easily modified and up to three adaptors can be installed. The BKM-129X Analog Component Input Adaptor is installed at SLOT 1 at the factory.

Stable color temperature

The beam current feedback circuit maintains a constant color temperature over long periods of time.

Blue-only mode convenient for monitoring noise

All three CRT cathodes can be driven with a blue signal, producing a monochrome display. This mode is convenient for chroma and phase adjustment, and for monitoring VTR noise.

1) Trinitron® is a registered trademark of Sony Corporation.
2) 9-inch and 14-inch refer to the CRT size of the monitor. For effective picture size, see "Specifications" on page 47(E).
3) For details on the signal format, see "Available Signal Format" on page 53(E).

Other features

- The monitor's various functions and operating conditions can be set with on-screen menus.
- Has both RS-485 serial remote and relay contact parallel remote control connectors.
- H delay and V delay functions for simultaneous checking of the horizontal and vertical synchronization signals. VITS (Vertical Interval Test Signal) checking is also possible.
- Auto and manual degaussing.
- The monitor may be mounted in an EIA-standard 19-inch rack, using an optional MB-520 (for 9-inch monitor) or BKM-30E14/31E14 (for 14-inch monitor) Rack Mount Kit.
- The appearance of the monitor can be changed to 16:9 or 4:3 display by the replacement of a mask.
- Operable by using a Sony lithium ion battery (BP-L60/L90A) or DC 12 V external power source. (BVM-D9H1U/D9H1E/D9H1A/D9H5U/D9H5E/D9H5A only)
- Built-in audio reproduce circuit and speaker. (BVM-D9H5U/D9H5E/D9H5A only)

Options

For external control

BKM-10R Monitor Control Unit

A controller for the BVM-D9H/D14H series video monitors, allowing you to control multiple monitors from one control unit.

BKM-11R Monitor Control Unit

A controller for the BVM-D9H/D14H and other BVM/HDM series video monitors, allowing you to control multiple monitors from one control unit.

BKM-14L Auto Setup Probe

A probe, allowing the automatic adjustment of this monitor's color temperature.

For installation

MB-520 Mounting Bracket

Mounting bracket to mount one or two BVM-D9H1U/D9H1E/D9H1A/D9H5U/D9H5E/D9H5A in a 19-inch EIA standard rack.

MB-519 Mounting Panel

Panel for the BVM-D9H1U/D9H1E/D9H1A to fill up the space created when mounting a video monitor to a rack with the MB-520 mounting bracket.

MB-509 Mounting Panel

Panel for the BVM-D9H5U/D9H5E/D9H5A to fill up the space created when mounting a video monitor to a rack with the MB-520 mounting bracket.

BKM-30E14 Rack Mount Kit

Rack mount kit for mounting the BVM-D14H5U/D14H5E/D14H5A in an EIA standard 19-inch rack.

BKM-31E14 Rack Mount Kit

Rack mount kit for mounting the BVM-D14H1U/D14H1E/D14H1A in an EIA standard 19-inch rack.

Others

VF-508 Monitor ENG Kit

Kit that includes a light intercepting hood which is mounted on the front of a monitor, and a connector protector which is mounted on the rear.

Input adaptors

The input connector panel is configured by sliding the optional input adaptor into the input option slot at the rear of the monitor. Up to three adaptors can be installed to the monitor.
The input signal type for each connector of the adaptor is set with the INPUT CONFIG menu, in accordance with the configuration of the connector panel.

Note

When installing the adaptor, be sure to perform the necessary input signal setup with the INPUT CONFIG menu. If the setup is not performed, the adaptors may not function correctly.

For information about the INPUT CONFIG menu, see "C Setting the Input Configuration — INPUT CONFIG Menu" on page 35(E).

Overview

BKM-120D SDI 4:2:2 Input Adaptor
Includes a decoder for serial digital component signals. D1 SDI input/output connectors for two serial digital channels and active loop-through output connectors.

BKM-127W NTSC/PAL Input Adaptor
Includes decoders for analog composite NTSC and PAL signals. Input/output connectors for two analog channels and one YC channel.

BKM-129X Analog Component Input Adaptor
Includes input/output connectors for one analog channel and EXT SYNC input/output connectors.

The BKM-129X is mounted to the monitor at the factory.

BKM-142HD HD SDI Input Adaptor
Includes a decoder for HD serial digital signals and input/output connectors for two serial digital signal channels and monitor output connector.

Notes

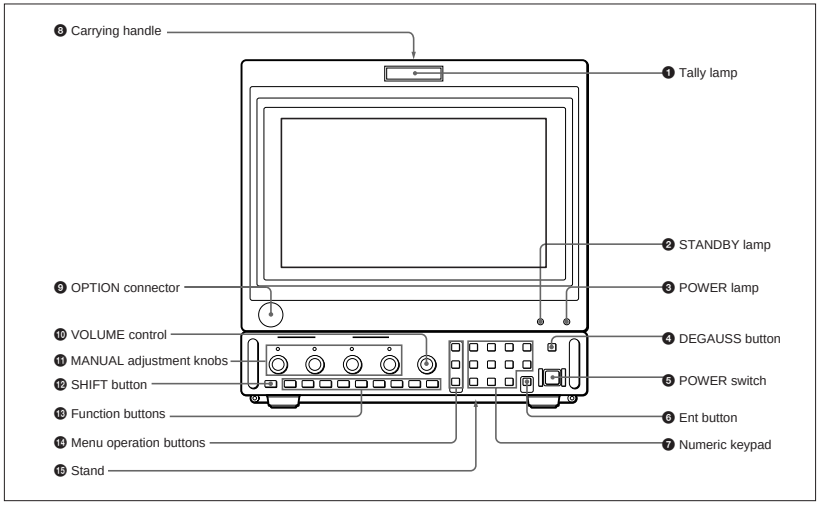
- The BKM-142HD uses two input option slots.
- The signal from MONITOR OUT connector does not satisfy the ON-LINE signal specifications.

Location and Function of Parts

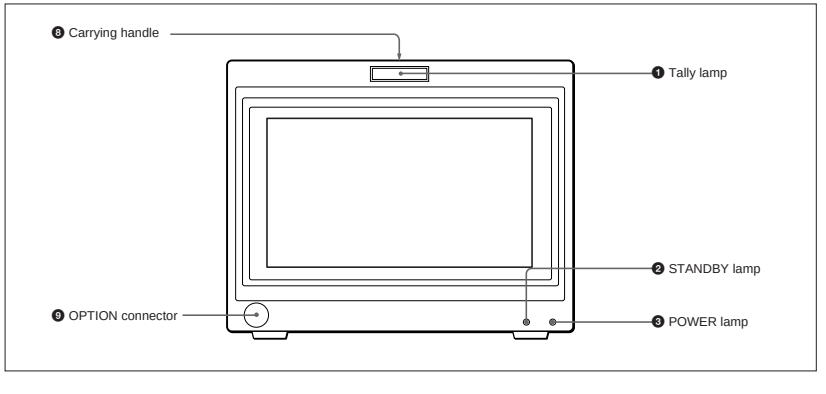
BVM-D9H1U/D9H1E/D9H1A/D9H5U/D9H5E/D9H5A Front Panel

For the BVM-D14H1U/D14H1E/D14H1A/D14H5U/D14H5E/D14H5A, see pages 16(E) to 20(E).

BVM-D9H1U/D9H1E/D9H1A



BVM-D9H5U/D9H5E/D9H5A



Location and Function of Parts

This manual explains the location and function of parts and controls of the BVM-D9H5U/D9H5E/D9H5A. The explanation also applies to the optional BKM-10R/11R Monitor Control Unit.

❶ Tally lamp
With factory settings, the tally lamp lights as follows when the pins of the PARALLEL REMOTE [1] connector on the rear panel are shorted:
– in red, when pins No.3 and No.9 are shorted.
– in green, when pins No.4 and No.9 are shorted.
– in amber, when pins No.3, No.4 and No.9 are shorted.

The tally lamp lights as follows when the pins of the PARALLEL REMOTE [2] connector on the rear panel are shorted:
– in red, when pins No.3 and No.5 are shorted.
– in green, when pins No.4 and No.5 are shorted.
– in amber, when pins No.3, No.4 and No.5 are shorted.

By changing the setting in the REMOTE menu, different pins on the remote connector can be used to control the tally lamp.

For information about the REMOTE menu, see "[D] Assigning the Remote Control Functions — REMOTE Menu" on page 37(E).

❷ STANDBY lamp
Lights when the monitor is in standby mode. The monitor will be in standby mode under the following conditions:
• The AC adaptor or battery is attached to the monitor when the STANDBY MODE menu of the SYSTEM CONFIG menu is set to ON.
• The monitor is changed from operation mode to standby mode by external control.

For information about the SYSTEM CONFIG menu, see "[E] Setting the Power-Up Conditions and Data about the Screen Display — SYSTEM CONFIG Menu" on page 39(E).

❸ POWER lamp
Lights when the monitor is put into operation mode from standby mode (see STANDBY lamp ❷) by pressing the POWER switch ❺.

Note
When the STANDBY lamp ❷ is blinking, the monitor cannot be put into operation mode (internal data initialization is taking place). Wait until the STANDBY lamp ❷ is steadily lit.

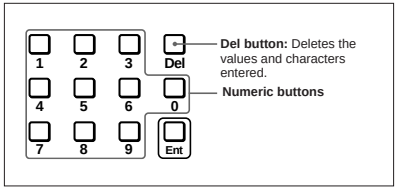
❹ DEGAUSS button
Press to degauss the CRT (every time the monitor is turned on, the CRT is degaussed automatically). To degauss again, wait for more than five minutes.

❺ POWER switch
Press to turn on/off the monitor. By setting with the ADDRESS menu, it is possible to turn on/off the power of the specified monitors only, or of all monitors at the same time.

For information about the ADDRESS menu, see "Selecting the Monitor to Control — ADDRESS Menu" on page 45(E).

❻ Ent button
Use to confirm the items, values and characters entered.

❼ Numeric keypad
Use to designate the channel number for the input signal to be monitored, or to enter the setting values with the menus.



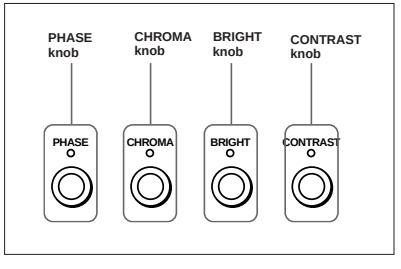
❽ Carrying handle
Pull out to use for carrying the monitor.

❾ OPTION connector
Used to connect the BKM-11R Monitor Control Unit or Auto Setup Probe (BKM-14L, etc.)

❿ VOLUME control
Adjusts the volume of the audio signals from the equipment connected to the AUDIO IN jacks at the rear of the monitor.

⓫ MANUAL adjustment knobs
Each press of one of these knobs turns the knob's green LED on or off. When the corresponding knob is on (lit), it is possible to manually adjust the contrast, brightness, chroma and phase by turning the corresponding knobs. The PHASE knob is also used to select the items or enter the setting values with the menus. It is possible to set the preset value for each adjusting item with the CONTROL PRESET ADJ menu.

For Information about the CONTROL PRESET ADJ menu, see "[A] Preset Adjustment of the Picture Level Control Knobs — CONTROL PRESET ADJ menu" on page 31(E).



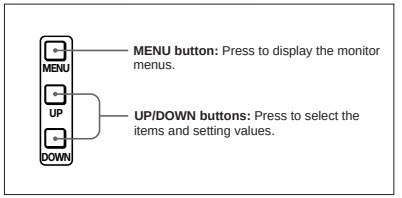
Note
The PHASE and CHROMA knobs may not be adjusted due to the signals. However, these knobs are used for selecting the items or entering the setting values with the menus.

⓬ SHIFT button
Press to select one of the two functions designated to the function buttons ⓭.
Each time the SHIFT button is pressed, the LED turns on (SHIFT ON: lits in umber) and off (SHIFT OFF.)
SHIFT OFF: The functions indicated above the function buttons can be used (the LED of the function button lits in green.)
SHIFT ON: The functions indicated below the function buttons can be used (the LED of the function button lits in amber.)

⓭ Function buttons
Change the operation conditions for the monitor. Each time the button is pressed, the LED turns on and turns off, and the operation conditions are changed. Each button has two functions. Select one of the two functions by pressing the SHIFT button ⓬. When the SHIFT button is set to ON, the LED lights in umber, and when the SHIFT button is set to OFF, the LED of each button lights in green.

For the functions of the function buttons in case of SHIFT OFF and SHIFT ON, see pages 10(E) and 11(E).

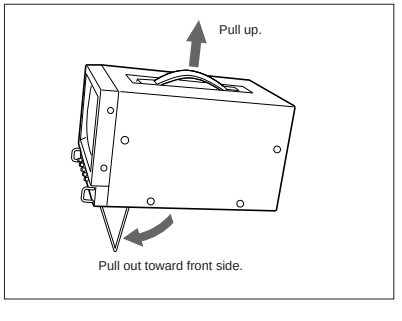
⓮ Menu operation buttons



For more information about menu operation, see "Basic Menu Operations" on page 25(E).

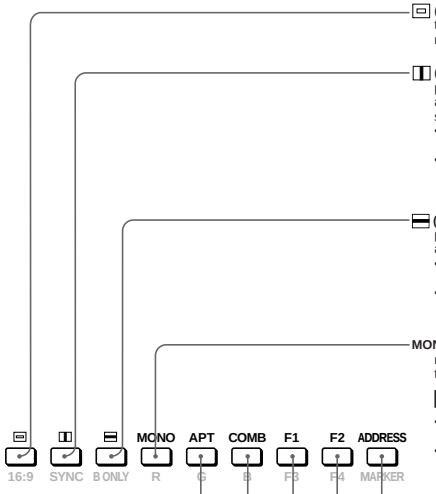
⓯ Stand
Pull out to use.

Using the Carrying Handle and Stand



Location and Function of Parts

Function buttons in SHIFT OFF mode (LEDs of function buttons in green)



(Underscan) button: When this button is pushed in (ON), the picture is underscanned by 3%, and four ends of the raster is displayed on the screen.

(H delay) button: When this button is pushed in (ON), the picture moves horizontally, and a horizontal sync signal appears approximately one quarter in the left edge of the screen.
- The brightness of the picture increases automatically, and it makes it easy to check the sync part.
- If it is pressed together with the button, a pulse cross picture is displayed.

(V delay) button: When this button is pushed in (ON), the picture moves vertically, and a vertical sync signal appears approximately in the center of the screen.
- The brightness of the picture increases automatically, and it makes it easy to check the sync part.
- If it is pressed together with button, a pulse cross picture is displayed.

MONO button: When this button is pushed in (ON), a monochrome picture is displayed. When the buttons is off, the monitor switches automatically color mode.

Notes
- The MONO button does not function with the RGB signal input.
- When the NTSC or PAL color signals are received and color burst signals are not input, the monitor does not switch to color mode.

ADDRESS button: When this button is pushed in (ON), the ADDRESS menu appears on the screen. By using the ADDRESS menu, operation conditions for multiple monitors are set.
For more information about the ADDRESS menu, see "Selecting the Monitor to Control — ADDRESS Menu" on page 45(E).

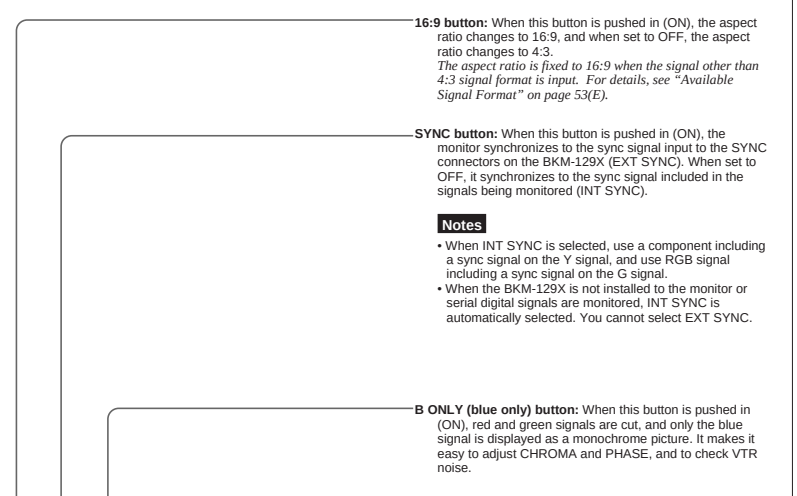
F2 button: When this button is pushed in (ON), you can access directly the MANUAL menu of the level 1 of the COLOR TEMP ADJ menu, if the short-cut function is assigned to this button.

F1 button: When this button is pushed in (ON), the characters disappear from the monitor on the MANUAL menu of the level 1 of the CONTROL PRESET ADJ menu, the MANUAL menu of the level 1 of the COLOR TEMP ADJ menu, and the ALIGNMENT menu.

COMB button: This button does not function with this monitor. However, when the BKM-127W NTSC/PAL Input Adaptor (optional) is installed and the NTSC or PAL color signals are received, the monitor can be used with the comb filter turned on.

APT (aperture) button: When this button is pushed in (ON), the frequency response can be modified. The degree of modification is set with the menu. (When RGB signals are input, the button does not function.)

Function buttons in SHIFT ON mode (LEDs of function buttons in amber)



16:9 button: When this button is pushed in (ON), the aspect ratio changes to 16:9, and when set to OFF, the aspect ratio changes to 4:3.
The aspect ratio is fixed to 16:9 when the signal other than 4:3 signal format is input. For details, see "Available Signal Format" on page 53(E).

SYNC button: When this button is pushed in (ON), the monitor synchronizes to the sync signal input to the SYNC connectors on the BKM-129X (EXT SYNC). When set to OFF, it synchronizes to the sync signal included in the signals being monitored (INT SYNC).

Notes
- When INT SYNC is selected, use a component including a sync signal on the Y signal, and use RGB signal including a sync signal on the G signal.
- When the BKM-129X is not installed to the monitor or serial digital signals are monitored, INT SYNC is automatically selected. You cannot select EXT SYNC.

B ONLY (blue only) button: When this button is pushed in (ON), red and green signals are cut, and only the blue signal is displayed as a monochrome picture. It makes it easy to adjust CHROMA and PHASE, and to check VTR noise.

R/G/B buttons: When these buttons are pushed in (ON), R(red), G(green), and B(blue) beams are cut respectively.

MARKER button: When this button is pushed in (ON), a 4:3 marker is displayed and it is possible to check the 4:3 aspect area in the 16:9 picture.

Note
The 4:3 marker is not displayed when the signals of the 4:3 aspect ratio are monitored or the monitor is in H/V delay mode

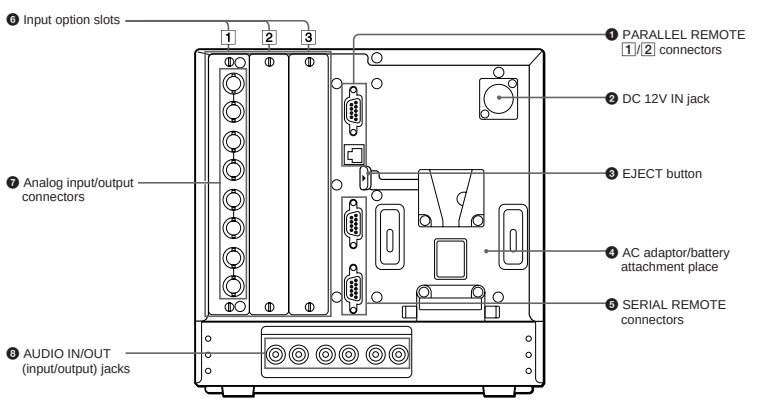
F3/F4 buttons: For future expansion.

http://getMANUAL.com

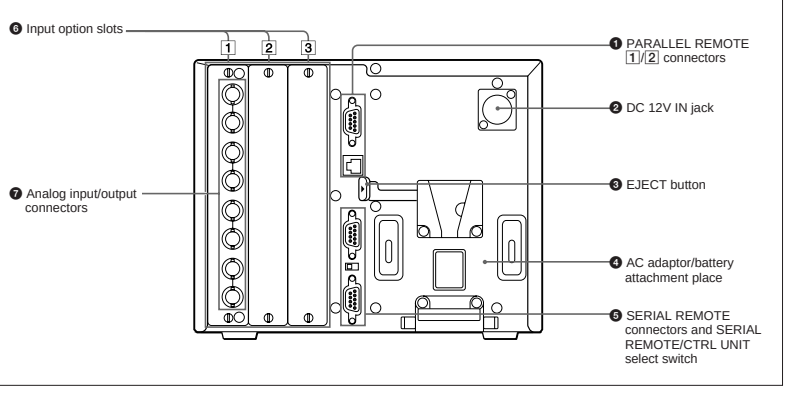
BVM-D9H1U/D9H1E/D9H1A/D9H5U/D9H5E/D9H5A Rear Panel

For the BVM-D14H1U/D14H1E/D14H1A/D14H5U/D14H5E/D14H5A, see pages 21(E) to 23(E).

BVM-D9H5U/D9H5E/D9H5A

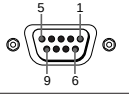


BVM-D9H1U/D9H1E/D9H1A



❶ PARALLEL REMOTE 1/2 connectors (1: female, D-sub 9-pin, 2: modular connector)
Form a parallel switch and controls the monitor externally. The pin assignment and factory setting function assigned to each pin are given below.

1: D-sub 9-pin



Pin number	Functions
1	Set input signal channel 1 (numeric keypad function)
2	Set input signal channel 2 (numeric keypad function)
3	Set red tally lamp on or off
4	Set green tally lamp on or off
5	Select sync signal (SYNC button function)
6	Set underscan on or off
7	Set a 16:9 aspect ratio on or off
8	Set the 4:3 area marker display on or off
9	GND

2: modular connector

Pin number	Functions
1	Set input signal channel 1 (numeric keypad function)
2	Set input signal channel 2 (numeric keypad function)
3	Set red tally lamp on or off
4	Set green tally lamp on or off
5	GND
6	Set underscan on or off

All pin function assignments can be changed with the REMOTE menu.

For information about the REMOTE menu, see " D Assigning the Remote Control Functions — REMOTE Menu" on page 37(E).

To switch each function between on and off or between enable and disable, change pin connections in the following way.

ON or enabled: Short each pin and pin 9 together **for D-sub 9-pin**.
Short each pin and pin 5 together **for modular connector**.

OFF or disabled: Leave each pin open.

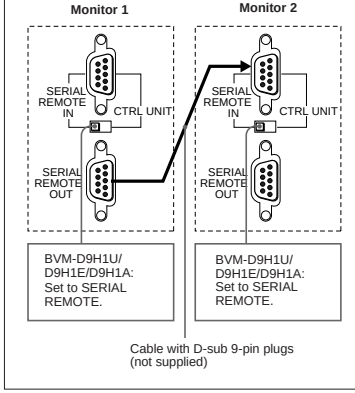
❷ DC 12V IN jack (XLR-type, 4-pin)
Connects the DC 12V external power source to use the monitor.

❸ EJECT button
While sliding this button, remove the AC adaptor or battery.

❹ AC adaptor/battery attachment place
Attach the AC adaptor or battery.

❺ SERIAL REMOTE connectors (female, D-sub 9-pin), and SERIAL REMOTE/CTRL UNIT select switch (BVM-D9H1U/D9H1E/D9H1A only)
These are RS-485 serial interface connectors, used for connecting two or more BVM-xxE/F/G, BVM-xxD and HDM-xxE series monitors. The IN and OUT connectors form a loop-through connection.
BVM-D9H1U/D9H1E/D9H1A only: The SERIAL REMOTE/CTRL UNIT select switch is set to SERIAL REMOTE at the factory.

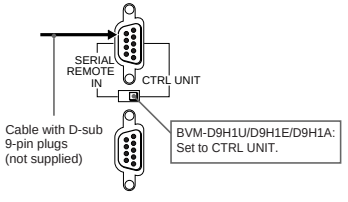
For connecting the monitor (used for daisy chain connections)
Connect two monitors using a cable with D-sub 9-pin plugs such as an RCC-5G (not supplied) as follows:



(continued)

For connecting the BKM-10R Monitor Control Unit

Connect the monitor and control unit using a cable with D-sub 9-pin plugs such as an RCC-5G (not supplied) as follows:



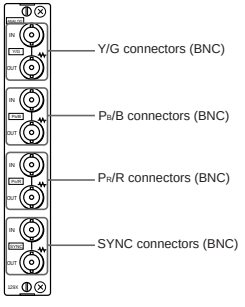
❻ Input option slots (three slots)

The monitor may be fitted with optional input adaptors up to three.
The BKM-129X is installed to the monitor at the factory.

Notes

- The BKM-142HD uses two input option slots.
- Each adaptor can also be installed into SLOT 1. Install any adaptor to SLOT 1.

❼ Analog input/output connectors (BKM-129X)



RGB signals or component signals (Y/P_B/P_R) can be fed in the IN connectors. The type of signal applied to each connector is set with the INPUT CONFIG menu. The OUT connectors are used for loop-through output of the input signal.

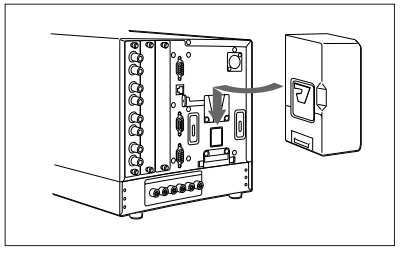
For information about the INPUT CONFIG menu, see " C Setting the Input Configuration — INPUT CONFIG Menu" on page 35(E).

❽ AUDIO IN/OUT (input/output) jacks (BVM-D9H5U/D9H5E/D9H5A only)

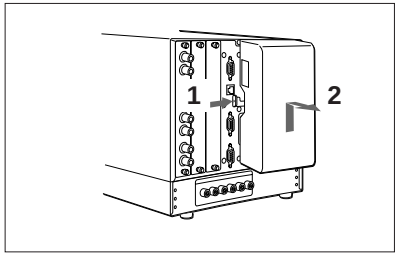
Connects to the audio output jacks of the VCR or microphone amplifier. The monitor is equipped with three input and output jacks. You can obtain the loop-through output from the OUT jacks.

Attaching the AC adaptor or battery

Attaching



Removing the AC adaptor or battery

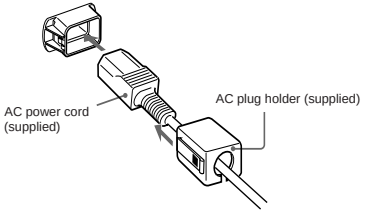


Note

Use the supplied AC adaptor for the BVM-D9H1U/D9H1E/D9H1A/D9H5U/D9H5E/D9H5A models only. It is dangerous to use the AC adaptor for models other than these.

Connecting the AC power cord

Attach the AC adaptor to the monitor, and then connect the supplied AC power cord.

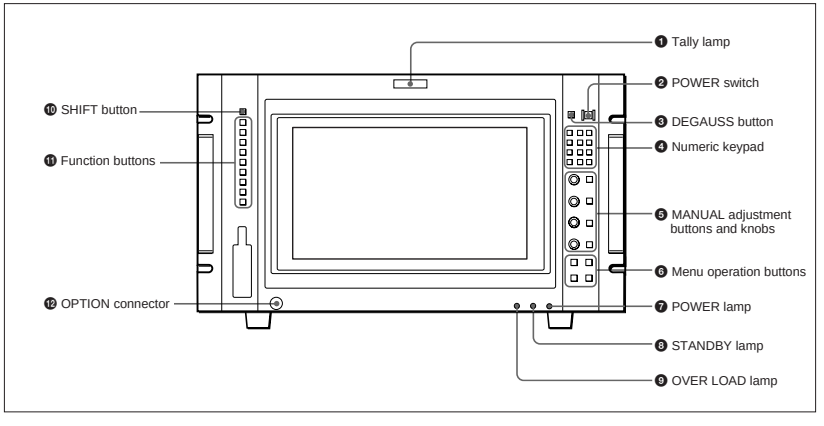


Attach the AC plug holder to the AC power cord, and connect it to the AC IN connector so that the cord does not come loose.

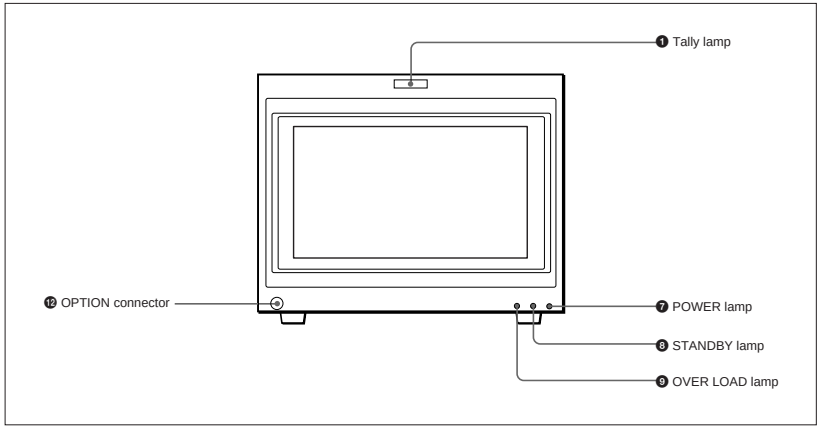
Location and Function of Parts

BVM-D14H1U/D14H1E/D14H1A/D14H5U/D14H5E/D14H5A Front Panel

BVM-D14H5U/D14H5E/D14H5A



BVM-D14H1U/D14H1E/D14H1A



This manual explains the location and function of parts and controls of the BVM-D14H5U/D14H5E/D14H5A. The explanation also applies to the optional BKM-10R/11R Monitor Control Unit.

❶ Tally lamp
With factory settings, the tally lamp lights as follows when the pins of the PARALLEL REMOTE 1 connector on the rear panel are shorted:
– in red, when pins No.3 and No.9 are shorted.
– in green, when pins No.4 and No.9 are shorted.
– in amber, when pins No.3, No.4 and No.9 are shorted.

The tally lamp lights as follows when the pins of the PARALLEL REMOTE 2 connector on the rear panel are shorted:
– in red, when pins No.3 and No.5 are shorted.
– in green, when pins No.4 and No.5 are shorted.
– in amber, when pins No.3, No.4 and No.5 are shorted.

By changing the setting in the REMOTE menu, different pins on the remote connector can be used to control the tally lamp.

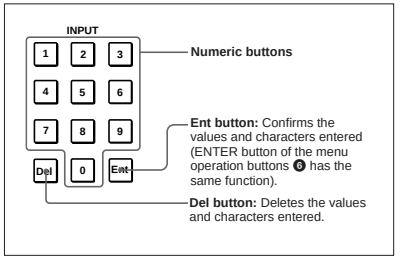
For information about the REMOTE menu, see "D Assigning the Remote Control Functions — REMOTE Menu" on page 37(E).

❷ POWER switch
Press to turn on/off the monitor. By setting with the ADDRESS menu, it is possible to turn on/off the power of the specified monitors only, or of all monitors at the same time.

For information about the ADDRESS menu, see "Selecting the Monitor to Control — ADDRESS Menu" on page 45(E).

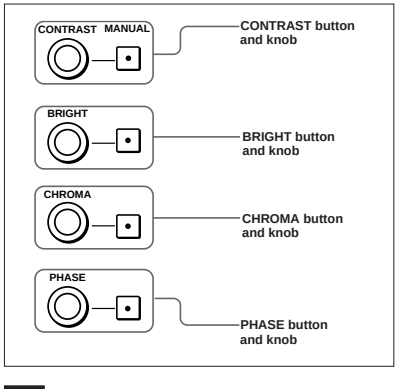
❸ DEGAUSS button
Press to degauss the CRT (every time the monitor is turned on, the CRT is degaussed automatically). To degauss again, wait for more than five minutes.

❹ Numeric keypad
Use to designate the channel number for the input signal to be monitored, or to enter the setting values with the menus.



❺ MANUAL adjustment buttons and knobs
Each press of one of these buttons turns the button's green LED on or off. When the corresponding button is on (lit), it is possible to manually adjust the contrast, brightness, chroma and phase by turning the corresponding knobs. The PHASE knob is also used to enter the setting values with the menus. It is possible to set the preset value for each adjusting item with the CONTROL PRESET ADJ menu.

For Information about the CONTROL PRESET ADJ menu, see " A Preset Adjustment of the Picture Level Control Knobs — CONTROL PRESET ADJ menu" on page 31(E).

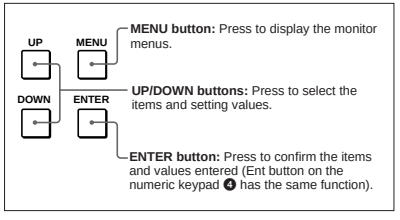


Note
The PHASE and CHROMA knobs may not be adjusted due to the signals. However, these knobs are used for selecting the items or entering the setting values with the menus.

(continued)

Location and Function of Parts

❻ Menu operation buttons



For more information about menu operation, see "Basic Menu Operations" on page 25(E).

❼ POWER lamp

Lights when the monitor is put into operation mode from standby mode (see STANDBY lamp ❽) by pressing the POWER switch ❷.

Note

When the STANDBY lamp ❽ is blinking, the monitor cannot be put into operation mode (internal data initialization is taking place). Wait until the STANDBY lamp ❽ is steadily lit.

❽ STANDBY lamp

Lights when the monitor is in standby mode. The monitor will be in standby mode under the following conditions:

- The MAIN POWER switch (on the rear panel) is turned on when the STANDBY MODE menu of the SYSTEM CONFIG menu is set to ON (the STANDBY lamp will blink for a few moments after the switch is turned on, then will light).
- The monitor is changed from operation mode to standby mode by external control.

For information about the SYSTEM CONFIG menu, see "E Setting the Power-Up Conditions and Data about the Screen Display — SYSTEM CONFIG Menu" on page 39(E).

❾ OVER LOAD lamp

Lights when some malfunction has occured.
When the OVER LOAD lamp is lit, consult your nearest Sony service facilities.

❿ SHIFT button

Press to select one of the two functions designated to the function buttons ⓫.
Each time the SHIFT button is pressed, the LED turns on (SHIFT ON: lits in umber) and off (SHIFT OFF.)

SHIFT OFF: The functions indicated above the function buttons can be used (the LED of the function button lits in green.)

SHIFT ON: The functions indicated below the function buttons can be used (the LED of the function button lits in amber.)

⓫ Function buttons

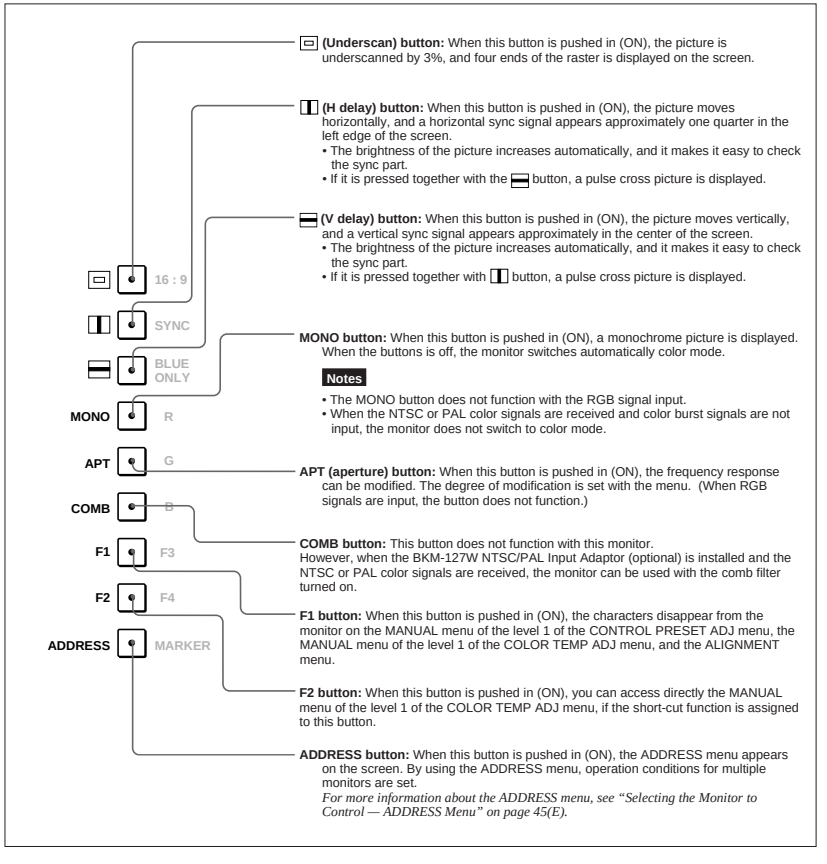
Change the operation conditions for the monitor.
Each time the button is pressed, the LED turns on and turns off, and the operation conditions are changed.
Each button has two functions. Select one of the two functions by pressing the SHIFT button ❿. When the SHIFT button is set to ON, the LED lights in umber, and when the SHIFT button is set to OFF, the LED of each button lights in green.

For the functions of the function buttons in case of SHIFT OFF and SHIFT ON, see pages 19(E) and 20(E).

⓬ OPTION connector

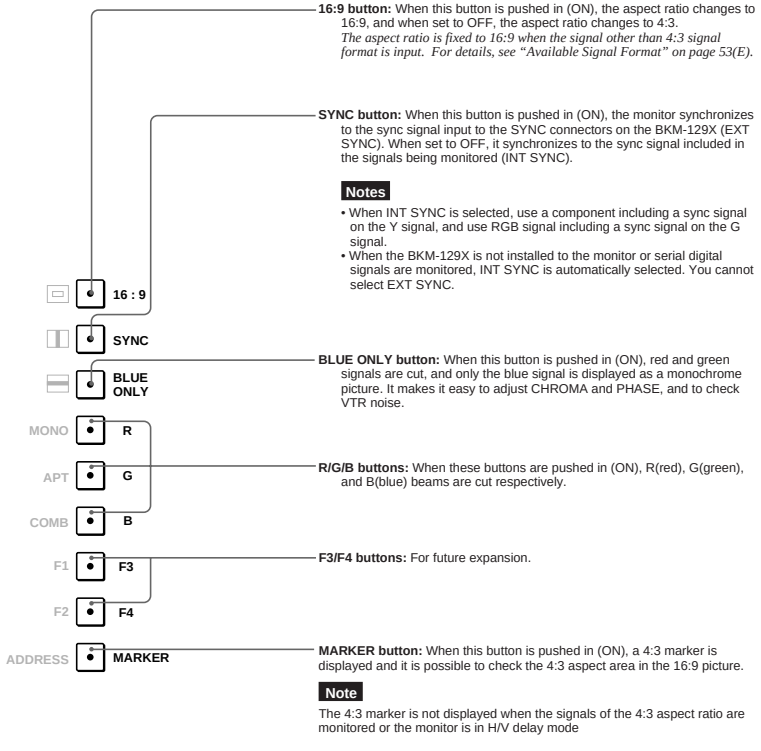
Used to connect the BKM-11R Monitor Control Unit or Auto Setup Probe (BKM-14L, etc.)

Function buttons in SHIFT OFF mode (LEDs of function buttons in green)



Location and Function of Parts

Function buttons in SHIFT ON mode (LEDs of function buttons in amber)



16:9 button: When this button is pushed in (ON), the aspect ratio changes to 16:9, and when set to OFF, the aspect ratio changes to 4:3.
The aspect ratio is fixed to 16:9 when the signal other than 4:3 signal format is input. For details, see "Available Signal Format" on page 53(E).

SYNC button: When this button is pushed in (ON), the monitor synchronizes to the sync signal input to the SYNC connectors on the BKM-129X (EXT SYNC). When set to OFF, it synchronizes to the sync signal included in the signals being monitored (INT SYNC).

Notes

- When INT SYNC is selected, use a component including a sync signal on the Y signal, and use RGB signal including a sync signal on the G signal.
- When the BKM-129X is not installed to the monitor or serial digital signals are monitored, INT SYNC is automatically selected. You cannot select EXT SYNC.

BLUE ONLY button: When this button is pushed in (ON), red and green signals are cut, and only the blue signal is displayed as a monochrome picture. It makes it easy to adjust CHROMA and PHASE, and to check VTR noise.

R/G/B buttons: When these buttons are pushed in (ON), R(red), G(green), and B(blue) beams are cut respectively.

F3/F4 buttons: For future expansion.

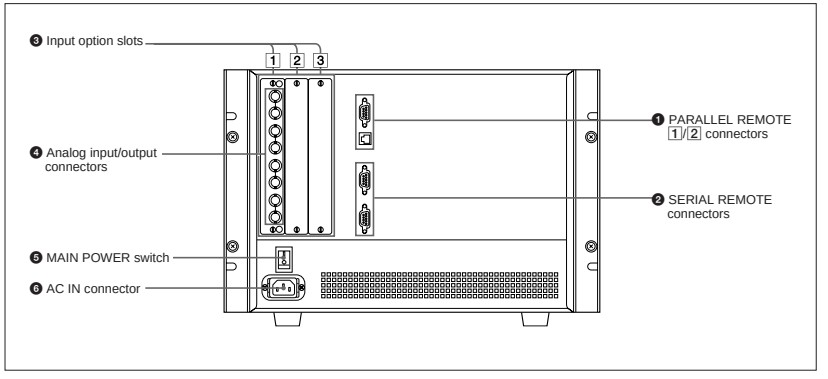
MARKER button: When this button is pushed in (ON), a 4:3 marker is displayed and it is possible to check the 4:3 aspect area in the 16:9 picture.

Note

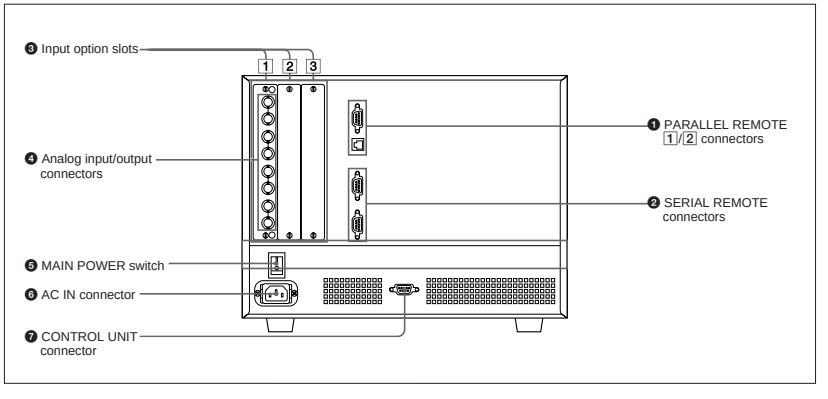
The 4:3 marker is not displayed when the signals of the 4:3 aspect ratio are monitored or the monitor is in H/V delay mode

BVM-D14H1U/D14H1E/D14H1A/D14H5U/D14H5E/D14H5A Rear Panel

BVM-D14H5U/D14H5E/D14H5A



BVM-D14H1U/D14H1E/D14H1A

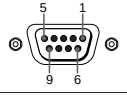


(continued)

Location and Function of Parts

❶ PARALLEL REMOTE 1/2 connectors (1: female, D-sub 9-pin, 2: modular connector)
Form a parallel switch and controls the monitor externally. The pin assignment and factory setting function assigned to each pin are given below.

1: D-sub 9-pin



Pin number	Functions
1	Set input signal channel 1 (numeric keypad function)
2	Set input signal channel 2 (numeric keypad function)
3	Set red tally lamp on or off
4	Set green tally lamp on or off
5	Select sync signal (SYNC button function)
6	Set underscan on or off
7	Set a 16:9 aspect ratio on or off
8	Set the 4:3 area marker display on or off
9	GND

2: modular connector

Pin number	Functions
1	Set input signal channel 1 (numeric keypad function)
2	Set input signal channel 2 (numeric keypad function)
3	Set red tally lamp on or off
4	Set green tally lamp on or off
5	GND
6	Set underscan on or off

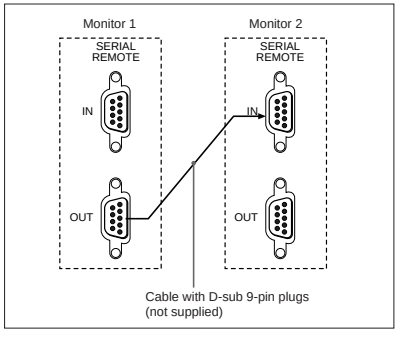
All pin function assignments can be changed with the REMOTE menu.

For information about the REMOTE menu, see " D Assigning the Remote Control Functions — REMOTE Menu" on page 37(E).

To switch each function between on and off or between enable and disable, change pin connections in the following way.
ON or enabled: Short each pin and pin 9 together **for D-sub 9-pin**.
Short each pin and pin 5 together **for modular connector**.
OFF or disabled: Leave each pin open.

❷ SERIAL REMOTE connectors (female, D-sub 9-pin)
These are RS-485 serial interface connectors, used for connecting two or more BVM-xxE/F/G, BVM-xxD and HDM-xxE series monitors.
The IN and OUT connectors form a loop-through connection.

Connect two monitors using a cable with D-sub 9-pin plugs such as an RCC-5G (not supplied) as shown in the figure on the next page.



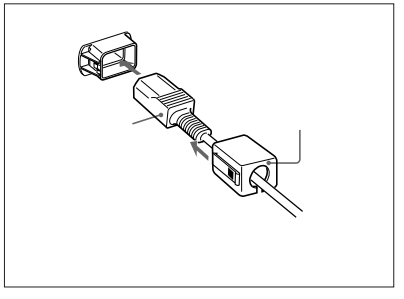
❸ Input option slots (three slots)
The monitor may be fitted with optional input adaptors up to three.
The BKM-129X is installed to the monitor at the factory.

Notes

- The BKM-142HD uses two input option slots.
- Each adaptor can also be installed into SLOT 1. Install any adaptor to SLOT 1.

❹ Analog input/output connectors (BKM-129X)

❻ AC IN connector (3-pin)
Connects the monitor to an AC power source, via the supplied AC power cord.



❼ CONTROL UNIT connector (female, D-sub 9-pin) (BVM-D14H1U/D14H1E/D14H1A only)
Connects a monitor control unit such as the BKM-10R using a cable with D-sub 9-pin plugs such as an RCC-5G (not supplied).

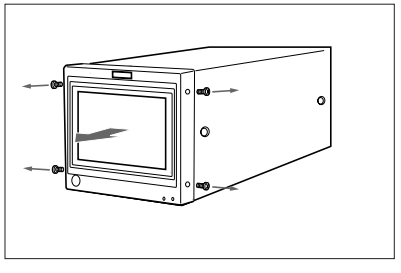
Installation of the 4:3 Mask

When the aspect ratio is switched from 16:9 to 4:3, replace the 16:9 mask with the supplied 4:3 mask.

BVM-D9H1U/D9H1E/D9H1A/ D9H5U/D9H5E/D9H5A

Installing the 4:3 mask

1 Remove four screws from both sides of the monitor and then remove the16:9 mask.



2 Install the 4:3 mask (supplied) and fix both sides with four screws.

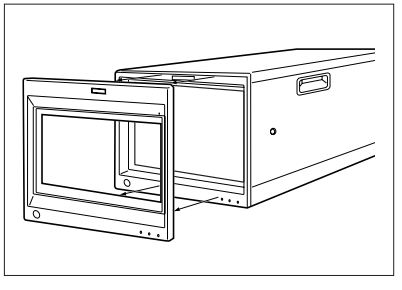
Replacing the 16:9 mask

Remove the 4:3 mask and replace the 16:9 mask using the same procedures as those for installing the 4:3 mask.

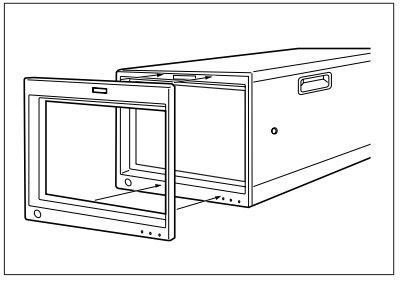
BVM-D14H1U/D14H1E/D14H1A/ D14H5U/D14H5E/D14H5A

Installing the 4:3 mask

1 Remove the 16:9 mask.



2 Install the 4:3 mask (supplied).
① Attach the lower portion of the mask.
② Attach the upper portion of the mask by pressing it until the click.



Replacing the 16:9 mask

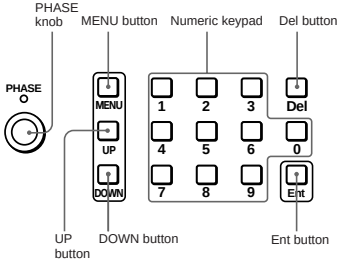
Remove the 4:3 mask and replace the 16:9 mask using the same procedures as those for installing the 4:3 mask.

Basic Menu Operations

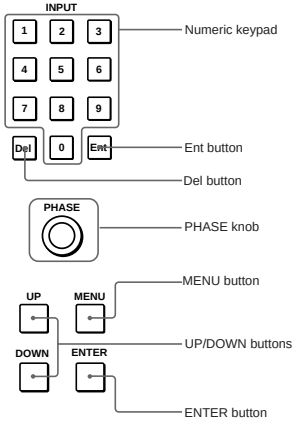
Menu Operation Buttons

The menus are operated using the menu operation buttons on the front panel of the monitor or BKM-10R/11R Monitor Control Unit.

Buttons on the BVM-D9H5U/D9H5E/D9H5A



Buttons on the BVM-D14H5U/D14H5E/D14H5A

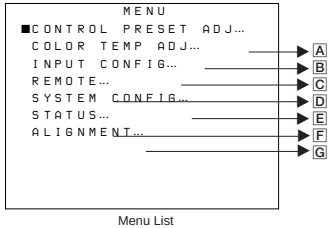


The functions of the menu operation buttons are described below.

Button	Function
UP button	Moves the cursor upward. In setting mode, increases the setting and adjustment values.
DOWN button	Moves the cursor downward. In setting mode, decreases the setting and adjustment values.
MENU button	Displays the Menus. Goes back to the menu of the upper level (on the Main Menu, goes back to the normal picture).
ENTER button/ Ent button	Executes the items selected and settings.
PHASE knob	By turning this knob clockwise, the cursor moves upward. In setting mode, increases the setting and adjustment values (has the same function as UP button). By turning this knob counterclockwise, the cursor moves downward. In setting mode, decreases the setting and adjustment values (has the same function as DOWN button).
Numeric keypad	Enters the numerical values.
Del button	Deletes the values and characters entered.

Displaying the Menus

Press the MENU button.
The menu list is displayed on the screen.



Menu List

When you select one item on the main menu, the level 1 menu corresponding to the selected item on the main menu appears.

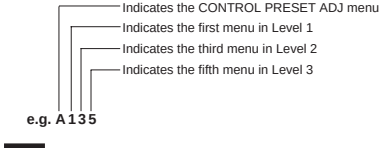
For information about the items on the main menu, see "Menu Structure" on page 30(E).

Note

Menu settings that cannot be changed are displayed in blue.

About menu numbers

For purposes of explanation in this manual, each menu is preceded by menu numbers. The alphabet determines the classification of menus on the Menu List (Main Menu), and the numbers determine the level and the order. These menu numbers are not shown on the screen.



Note

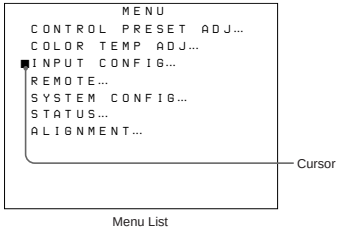
Only the menus which require explanation are preceded by menu numbers. Thus, the menu number is counted without menus which do not require explanation.

Menu Operation

Follow the steps described below to display the menu and perform the adjustment or setup you wish.

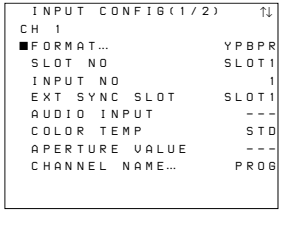
1 Press the MENU button.
The Menu List is displayed.

2 Using the UP/DOWN buttons or PHASE knob, move the cursor to the desired item. (Example: select the INPUT CONFIG menu by pressing the DOWN button.)



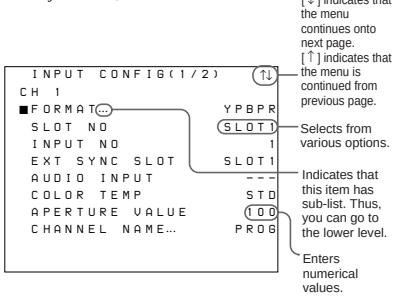
Menu List

3 Press the ENTER button or Ent button.
The Level 1 of the selected menu is displayed.



(continued)

4 Repeat steps **2** and **3** until the desired menu is displayed.
For more information about setting and adjustments, see below.



To abort menu operation

Press the MENU button. The menu of the upper level is displayed.
The setting or adjustment being performed is canceled, and data loading or saving is aborted.

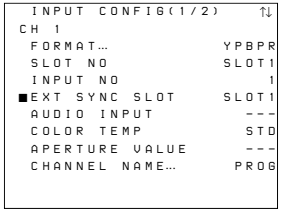
If "NG" or "ERROR" appears during menu operation

Press the MENU button to return to the menu in use.

Choosing one of two or more selections

Selecting in setting mode

1 Using the UP/DOWN buttons or PHASE knob, move the cursor to the desired item and press the ENTER or Ent button.
The selected item is displayed in yellow text and set to setting mode.

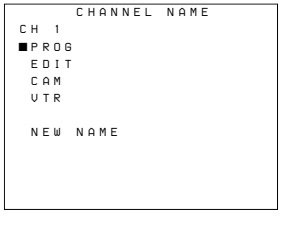


2 Using the UP/DOWN buttons or PHASE knob, change the setting.

3 Press the ENTER or Ent button.
The setting is confirmed (The item is displayed in white text again).

Selecting from the setting list

1 Using the UP/DOWN buttons or PHASE knob, move the cursor to the desired item in the setting list.

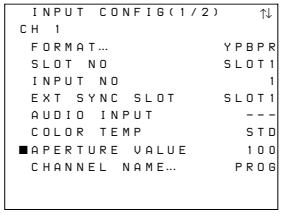


2 Press the ENTER or Ent button.
The display returns to the menu of the upper level, and the selected setting is executed.

Basic Menu Operations

Entering a numerical value

1 Using the UP/DOWN buttons or PHASE knob, move the cursor to the desired item and press the ENTER or Ent button.
The selected item is displayed in yellow text and set to setting mode.

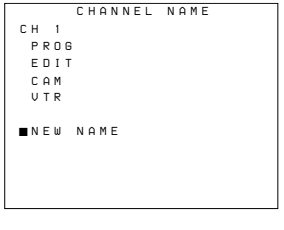


2 Set the value in one of the following three ways:
- Enter the value directly using the numeric keypad and press the ENTER or Ent button
- Select the value using the UP/DOWN buttons
- Select the value using the PHASE knob

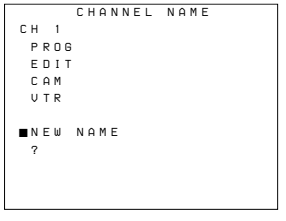
3 Press the ENTER or Ent button.
The setting is confirmed (The item is displayed in white text again).

Entering characters

1 Display the setting menu and set the cursor to NEW NAME using the UP/DOWN buttons or PHASE knob.



2 Press the ENTER or Ent button.
"?" is displayed in yellow. The "?" indicates the position where character input is possible.

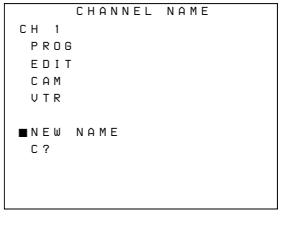


3 Select the character you wish to enter using the UP/DOWN buttons or PHASE knob.
When you press the UP button, or turn the PHASE knob clockwise, the characters and symbols appear in the order shown below.

A B .....Y Z 0 1 .....8 9 (,) : ; . - + / & (space) ?

If you press the UP/DOWN button or turn the PHASE knob counterclockwise, the characters and symbols appear in the reverse order described above.

4 Press the ENTER or Ent button.
The selected character is entered.



5 Repeat steps **3** and **4** until all the characters are entered, then press the ENTER or Ent button.
The selected characters are confirmed, and the display returns to the menu of the previous level.

To correct the entered character

Press the Del button on the numeric keypad. The character on the left side of the "?"(in yellow) is deleted.

ADDRESS Menu

In addition to the menus displayed on the menu list, the ADDRESS menu is provided. This ADDRESS menu is used to select the monitor or the monitor group, so that when several monitors are connected together via serial remote ports, the control panel can select which monitor to control.
To display or exit the ADDRESS menu, press the ADDRESS button. The method of choosing menu items and changing settings is the same as with the other menus.

For information about the ADDRESS menu, see "Selecting the Monitor to Control —ADDRESS Menu" on page 45(E).

Menu Structure

Menus consist of one to three levels.

Detailed information on the levels of menus is described at the top of explanation of each menu.

	Main Menu	Functions
A	**CONTROL PRESET ADJ menu**	Sets the preset values for the input signal's chroma, contrast, phase, and brightness. (page 31(E))
B	**COLOR TEMP ADJ menu**	Sets the color temperature. (page 33(E))
C	**INPUT CONFIG menu**	Sets the input channel. (page 35(E))
D	**REMOTE menu**	Sets the remote control functionality. (page 37(E))
E	**SYSTEM CONFIG menu**	Sets the power-up conditions and data about the screen display. (page 39(E))
F	**STATUS menu**	Displays the information about the monitor or options installed in the monitor. (page 42(E))
G	**ALIGNMENT menu**	Adjusts the position, size and geometry of the picture. (page 43(E))

A Preset Adjustment of the Picture Level Control Knobs — CONTROL PRESET ADJ Menu

Overview

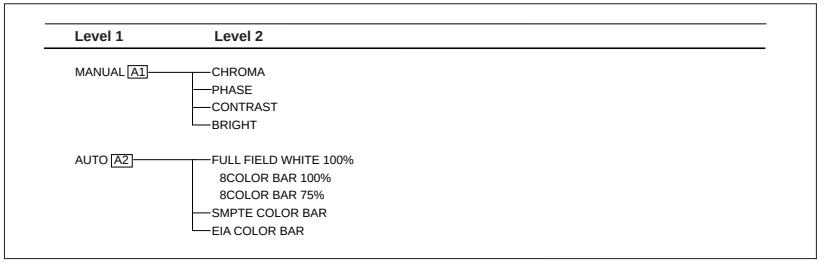
The preliminary adjustments of chroma, phase, contrast and brightness are carried out with the CONTROL PRESET ADJ menu to set the preset values to the knobs for the above-mentioned adjustments.

Preset values can be set in the following two ways:
- **Adjustment with the MANUAL adjustment knobs (MANUAL menu)**
- **Automatic adjustment (AUTO menu)**
  An external color bar signal is necessary.

Note

After installing the optional board, carry out AUTO adjustment.

Structure of the CONTROL PRESET ADJ Menu



Setting Lists in the CONTROL PRESET ADJ Menu

This section explains the setting lists displayed in the menu.

How to read the setting lists

- For purposes of explanation, each setting list is preceded by a menu number. These numbers are not displayed on the screen.
  For more information about the menu number, see "About menu numbers" on page 26(E).
- The arrow mark (⇨) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.

http://getMANUAL.com

A Preset Adjustment of the Picture Level Control Knobs — CONTROL PRESET ADJ Menu

A CONTROL PRESET ADJ menu
Select the setting method.
MANUAL... : Set with the MANUAL adjustment knobs. ⇨A1
AUTO... : Set by automatic adjustment. ⇨A2

A1 MANUAL menu
Adjust values by turning the CHROMA, PHASE, CONTRAST, and/or BRIGHT knobs. After the adjustment, press the ENTER or Ent button to confirm the adjusted values.
The setting value is 0 to 200.
CHROMA: xxx
PHASE: xxx
CONTRAST: xxx
BRIGHT: xxx

When you want to erase characters from the screen while adjusting manually
Press the F1 button. The characters disappear. To display characters, press the F1 button again.

To reset the setting to the default
Press the corresponding MANUAL adjustment button (BVM-D14H5U/D14H5E/D14H5A) or knob (BVM-D9H5U/D9H5E/D9H5A.) The adjusted value is reset to 100 (default).

A2 AUTO menu
You can adjust the CHROMA and PHASE levels automatically. Input the color bar signals to the board to be adjusted and select the required color bar signals.
⇨Adjustment is carried out.
8COLOR BAR 100%: 100% full-field 8-color bar (white, yellow, cyan, green. magenta, red, blue, black)
8COLOR BAR 75%: 75% full-field color bar (with 100% white signal)
SMPTE COLOR BAR: SMPTE standard color bar
EIA COLOR BAR: EIA standard color bar

Note
When you execute the AUTO menu, SYNC button should be set to OFF (INT SYNC).
EXT SYNC will cause an error abortion of auto adjustment procedure.

B Adjusting the Color Temperature — COLOR TEMP ADJ Menu

Overview

The monitor can memorize the data for up to three color temperatures (STD, COL1, COL2.) The data for each color temperature is adjusted with the COLOR TEMP ADJ menu. The data of the color temperature selected in the INPUT CONFIG menu is adjusted. Color temperature adjustment can be made in the following three ways:

- **Knob adjustment (MANUAL menu)**
  You can adjust the color temperature with the bias and gain knobs.
- **Automatic adjustment using a probe (PROBE menu)**
  You can use the following probes for automatic adjustment of color temperature. Except for the Sony BKM-14L, a cable is required to connect the color analyzer to the monitor.

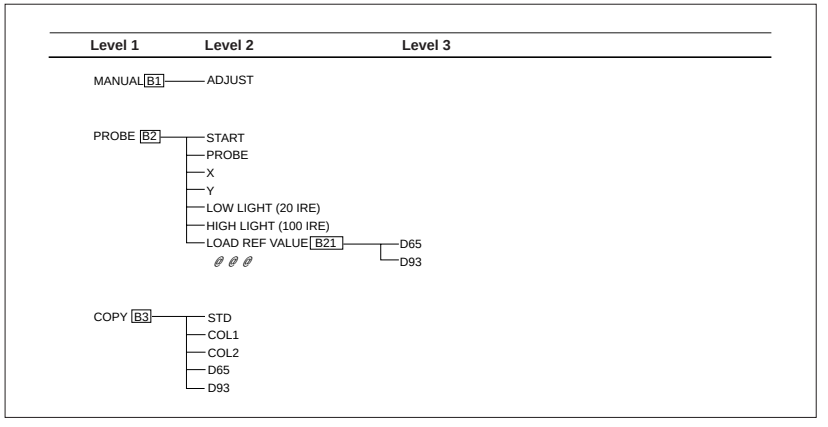
Manufacturer	Probe Model Name
SONY	BKM-14L (no cable required)
GRASEBY	SLS 9400
MINOLTA	CA-100
PHILIPS	PM 5639
THOMA	TF6

For more information about the cable specification required and about the connection, see "Connection Cable Specifications for Color Temperature Probes" on page 54(E).

Notes
- The CRT size of the BVM-D9H1U/D9H1E/D9H1A/D9H5U/D9H5E/D9H5A is small. So, when a probe other than the Sony BKM-14L is used, use the probe closely to the CRT screen.
- After the color temperature is adjusted by automatic adjustment, carry out the AUTO adjustment of the CONTROL PRESET ADJ menu (AUTO CHROMA PHASE adjustment.)

- **Copying other color temperature data (COPY menu)**
  You can copy the memorized color temperature data (STD/COL1/COL2/D65/D93.) Use the factory setting value or the adjusted value as an original value to shorten the adjustment time.

Structure of the COLOR TEMP ADJ Menu



B Adjusting the Color Temperature — COLOR TEMP ADJ Menu

Setting Lists in the COLOR TEMP ADJ Menu

This section explains the setting lists displayed in the menu.

How to read the setting lists

- For purposes of explanation, each setting list is preceded by a menu number. These numbers are not displayed on the screen.
  For more information about the menu number, see "About menu numbers" on page 26(E).
- The arrow mark (⇨) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.

B COLOR TEMP ADJ menu

Select the adjustment method.
MANUAL... : Set with the MANUAL adjustment knob. ⇨B1
PROBE... : Set using a probe. ⇨B2
COPY... : Copy data from elsewhere. ⇨B3

B1 MANUAL menu

Adjust the gain and bias with the MANUAL adjustment knob.
ADJUST... : Adjust the gain and bias. To shift between gain adjustment and bias adjustment, press UP/DOWN buttons. Use appropriate knobs in each adjustment as described below. After the adjustment, press the ENTER or Ent button to confirm the adjusted values.
RED: CONTRAST KNOB (Adjust the R gain or bias with the CONTRAST knob.)
GREEN: BRIGHT KNOB (Adjust the G gain or bias with the BRIGHT knob.)
BLUE: CHROMA KNOB (Adjust the B gain or bias with the CHROMA knob.)
LUMINANCE: PHASE KNOB (Adjust luminance with the PHASE knob.)

To reset RED/GREEN/BLUE to the value before adjustment

When you are adjusting the gain or bias using the MANUAL adjustment knobs, you can reset the setting to the one before adjustment by pressing the corresponding MANUAL adjustment button (BVM-D14H5U/D14H5E/D14H5A) or knob (BVM-D9H5U/D9H5E/D9H5A).
To reset all of settings at the same time, press the PHASE button or knob.

Note

You cannot reset the setting after you press the ENTER or Ent button.

To access the MANUAL menu directly

When the F2 button is assigned as the short-cut key to the MANUAL menu, you can directly access the MANUAL menu that corresponds to the color temperature setting (STD/COL1/COL2) set to the image on the screen.
For details of how to assign the short-cut key, see " E Setting the Power-Up Conditions and Data about the Screen Display — SYSTEM CONFIG Menu" on page 39(E).

B2 PROBE menu

Select the probe for color temperature adjustment.
START: Start adjustment.
PROBE: Select the probe.
X: Enter the x coordinate.
Y: Enter the y coordinate.
LOW LIGHT (20IRE): Enter the luminance (cd/m^2) for low light.
HIGH LIGHT (100IRE): Enter the luminance (cd/m^2) for high light.
LOAD REF VALUE: Select the standard settings of the x and y coordinates. ⇨B21

B21 LOAD REF VALUE

Select one of the followings:
D65: Use D65 setting (x and y coordinates and standard luminance).
D93: Use D93 setting (x and y coordinates and standard luminance).

B3 COPY menu

Select one of followings: ⇨ The current data, which is used for adjusting, is copied.
STD: Copy STD data (factory setting: D65).
COL1: Copy COL 1 data (factory setting: D93).
COL2: Copy COL 2 data (factory setting: D65).
D65: Copy the color temperature of D65.
D93: Copy the color temperature of D93.

Note

The current data which is used for adjusting (selected in the INPUT CONFIG menu) is displayed in blue letters and you can not select it.

C Setting the Input Configuration — INPUT CONFIG Menu

Overview

You can set up to nine input channels.
Data pertaining to the input signals are set with the INPUT CONFIG menu.
When a channel number (1 to 9) is entered with the numeric keypad, it is then possible to set which input connector on the rear panel will be assigned to that channel number, and select the type of signal that will be connected.

Assigning slot and connector numbers

Set which input connector on which slot will be assigned to the current channel.

Assigning the signal type and format

The signal type and format which can be assigned to each channel number vary, depending on what adaptors are installed in the rear panel.

To assign D1 serial digital signals

Serial digital signals can be assigned to the slot where the BKM-120D is installed.

To assign analog composite signals

Analog composite signals can be assigned to the slot where the BKM-127W is installed.

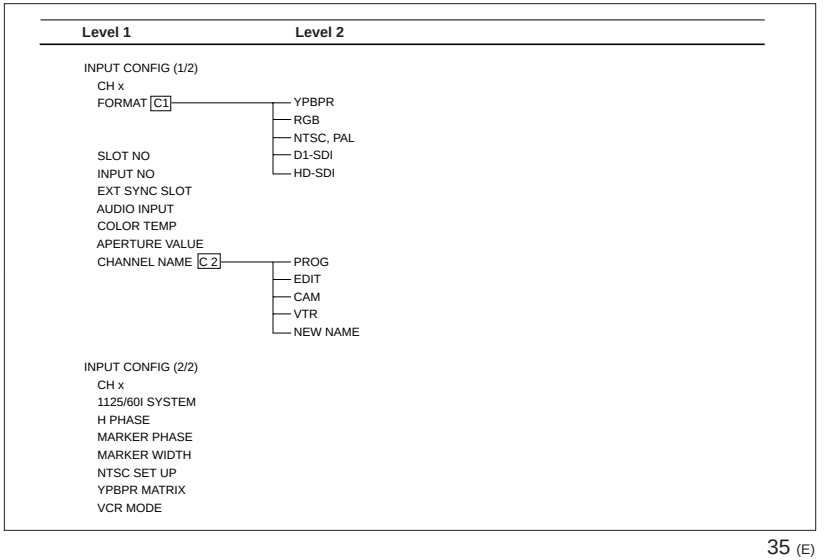
To assign HD serial digital signals

HD serial digital signals can be assigned to the slots where the BKM-142HD is installed.

To assign analog component or RGB signals

Analog component or RGB signals can be assigned to the slot where BKM-129X is installed.

Structure of the INPUT CONFIG Menu



C Setting the Input Configuration — INPUT CONFIG Menu

Setting Lists in the INPUT CONFIG Menu

This section explains the setting lists displayed in the menu.

How to read the setting lists

- For purposes of explanation, each setting list is preceded by a menu number. These numbers are not displayed on the screen.
  For more information about the menu number, see "About menu numbers" on page 26(E).
- The arrow mark (⇨) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.

C (1/2) INPUT CONFIG (1/2) menu

Set input signal data for each channel.

CH x: Current channel is indicated. To change the channel, enter a channel number with the numeric keypad. The settings below will be stored as information of this channel.
FORMAT... : Select the input signal type. ⇨C1
SLOT NO: Select the slot number.
INPUT NO: Select the input connector number.
EXT SYNC SLOT: Select the slot when the external sync signal is used.
AUDIO INPUT (BVM-D9H5U/D9H5E/D9H5A only): Select the audio input number.
COLOR TEMP: Select the color temperature.
APERTURE VALUE: Enter the aperture adjustment value (0 to 200).
CHANNEL NAME: Give the channel a name. ⇨C2

C (2/2) INPUT CONFIG (2/2) menu

Set input signal data for each channel.

CH x: Current channel is indicated. To change the channel, enter a channel number with the numeric keypad. The settings below will be stored as information of this channel.
1125/60I SYSTEM: Select the number of active scanning lines per frame for 1125/60I input signals. When the HD SDI signal is input, the number of active scanning lines is selected automatically.
1035: The active scanning lines are 1035 lines.
1080: The active scanning lines are 1080 lines
H PHASE: Set the horizontal picture position (–128 to +127).
MARKER PHASE: Set the 4:3 marker position.
MARKER WIDTH: Set the 4:3 marker width.
NTSC SET UP: Set the setup level when the BKM-127W is installed. SETUP 7.5 or 0.
YPBPR MATRIX: Select the matrix when YP_BP_R signals of the signal format 480/60I or 480/60P (TV lines 525) are input.
VCR MODE: Compensate for a distorted picture when the input signals from the VCR are not typical. This mode is effective when the signal formats 480/60I or 575/50I are input.
ON: Operates when the signal formats 480/60I or 575/50I are input.
OFF: Does not operate.

C1 FORMAT menu

Select the signal format.

YPBPR: Select the component signals when the BKM-129X is installed. SPMTE, BETACAM 7.5 or 0.
RGB: Select when the BKM-129X is installed.
NTSC, PAL: Selects when the BKM-127W is installed.
D1-SDI: Select when the BKM-120D is installed.
HD-SDI: Select when the BKM-142D is installed.

C2 CHANNEL NAME menu

Give the channel a name. Enter a name after a preset one or a new one.

PROG: Program signal.
EDIT: Signal from an editor.
CAM: Camera signal.
VTR: Signal from a VTR.
NEW NAME: Enter a new name. (Up to 20 characters can be entered and up to six characters from the head of the name are displayed in the INPUT CONFIG menu (C 1/2).)

D Assigning the Remote Control Functions — REMOTE Menu

Overview

The remote control functions are set with the REMOTE menu. With this monitor, both serial remote control (SERIAL REMOTE) and parallel remote control (PARALLEL REMOTE) are possible.

- **Settings for the serial remote control (SERIAL REMOTE)**
  An address number (MONITOR ADDRESS) and group number (GROUP ADDRESS) can be assigned to the monitor connected to the SERIAL REMOTE connector.
- **ON/OFF setting for the parallel remote control (PARALLEL REMOTE)**
- **Settings for the parallel remote control (PARALLEL REMOTE)**
  Functions can be assigned to the pins of the PARALLEL REMOTE connector.

Priority order of the remote control functions

It is possible to simultaneously use the BKM-10R/11R Monitor Control Unit, SERIAL REMOTE, and PARALLEL REMOTE for control, but commands from PARALLEL REMOTE have priority. Therefore, it is impossible for the BKM-10R/11R or SERIAL REMOTE to change items set by PARALLEL REMOTE.
There is no priority order between commands from SERIAL REMOTE and the BKM-10R/11R control panel.

PARALLEL REMOTE 1 and 2 are connected parallel inside the unit, therefore, there is no priority order between them.

About monitor address and group numbers

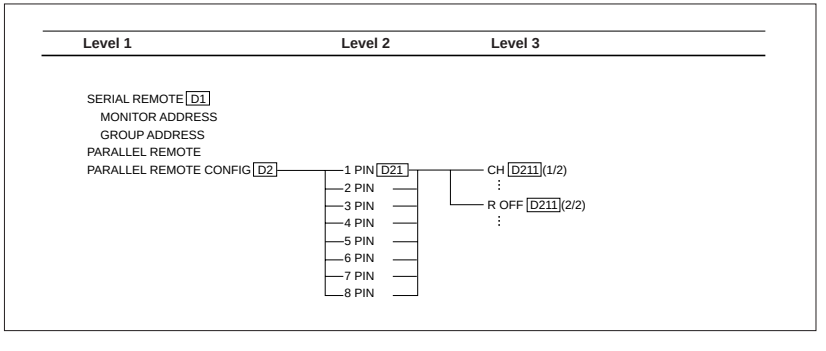
It is possible to control up to 32 monitors connected via serial remote connector (using the SERIAL REMOTE connector). By giving each monitor a monitor address and group number, it is possible to control just a specific monitor or monitor group.
With the SERIAL REMOTE menu, each monitor can be set with a monitor address and group number, between 1 and 99.
The ADDRESS menu is used to control the monitors which are connected by the serial remote connectors.

For information about the ADDRESS menu, see "Selecting the Monitor to Control — ADDRESS Menu" on page 45(E).

Note

The address number must differ from one monitor to another. If two or more monitors have the same address number, an operation error occurs.

Structure of the REMOTE Menu



D Assigning the Remote Control Functions — REMOTE Menu

Setting Lists of the REMOTE Menu

This section explains the setting lists displayed in the menu.

How to read the setting lists

- For purposes of explanation, each setting list is preceded by a menu number. These numbers are not displayed on the screen.
  For more information about the menu number, see "About menu numbers" on page 26(E).
- The arrow mark (⇨) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.

D REMOTE menu

Select the type of remote control.
SERIAL REMOTE : Set the address and group number of the monitor controlled via the SERIAL REMOTE connector. ⇨D1
PARALLEL REMOTE: Select whether parallel remote control will be used or not (ON or OFF.)
PARALLEL REMOTE CONFIG : Set the pin assignments for the PARALLEL REMOTE connector. ⇨D2

D1 SERIAL REMOTE menu

Set the monitor address and group number.
MONITOR ADDRESS: Enter a number.
GROUP ADDRESS: Enter a number.

D2 PARALLEL REMOTE CONFIG menu

Select the PARALLEL REMOTE connector pins for which you want to change the function. The factory settings for each pin are given below. ⇨D211
PINs 1 to 4, and PIN 6 of the PARALLEL REMOTE 1 and 2 are common settings.
1 PIN: CH01
2 PIN: CH02
3 PIN: TALLY RED
4 PIN: TALLY GREEN
5 PIN: EXT SYNC (PARALLEL REMOTE 1)
GND (PARALLEL REMOTE 2)
6 PIN: UNDERSCAN
7 PIN: 16:9
8 PIN: 4:3 MARKER

Note

PINs 1 to 4, and PIN 6 of the PARALLEL REMOTE 1 and 2 are connected inside the unit, therefore different functions cannot be assigned to those pins.

D211 (1/2) 1-8 PIN menu (1/2)

Assign a function to the selected pin.
CH: Select a channel number. Enter the desired channel number with the numeric keypad.
----: Set to unused.
UNDER SCAN: Set underscan on or off.
16:9: Set a 16:9 aspect ratio on or off.
H DELAY: Set the horizontal sync display on or off.
V DELAY: Set the vertical sync display on or off.
EXT SYNC: Set the synchronization to external sync signals enabled or disabled.
APERTURE: Set the correction of frequency characteristics enabled or disabled.
MONO: Set monochrome display on or off.
BLUE ONLY: Set the blue signal pictures display (monochrome) on or off.

D211 (2/2) 1-8 PIN menu (2/2)

Assign a function to the selected pin.
R OFF: Set cutting red beams enabled or disabled.
G OFF: Set cutting green beams enabled or disabled.
B OFF: Set cutting blue beams enabled or disabled.
4:3 MARKER: Set the 4:3 marker display on or off.
CAPTION VISION: Set Caption Vision on or off.
TALLY RED: Set tally red on or off.
TALLY GREEN: Set tally green on or off.
DEGAUSS: Set degaussing on or off.
POWER OFF: Set the monitor power on or off.

For the pin assignment, see "PARALLEL REMOTE 1/2 connectors" in the Location and Function of Parts on page 13(E) for BVM-D9H1U/D9H1E/D9H1A/D9H5U/D9H5E/D9H5A or page 22(E) for BVM-D14H1U/D14H1E/D14H1A/D14H5U/D14H5E/D14H5A.

E Setting the Power-Up Conditions and Data about the Screen Display — SYSTEM CONFIG Menu

Overview

The SYSTEM CONFIG menu is displayed on the two pages.
The SYSTEM CONFIG (1/2) menu is used for the following settings:

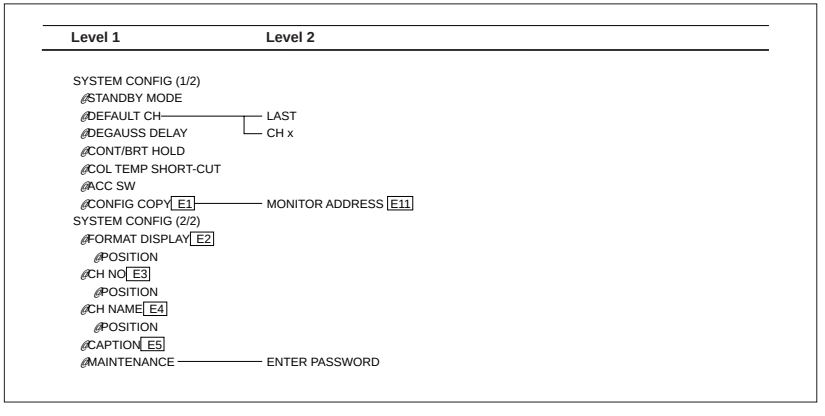
- **Power-up condition (STANDBY MODE menu)**
  This menu sets the condition of the monitor when the MAIN POWER switch on the rear panel is switched on (BVM-D14H1U/D14H1E/D14H1A/D14H5U/D14H5E/D14H5A) or when the battery is installed (BVM-D9H1U/D9H1E/D9H1A/D9H5U/D9H5E/D9H5A.)
- **Power-up input channel (DEFAULT CH menu)**
  This menu sets the power-up input channel.
- **Time from power-up until degauss (DEGAUSS DELAY menu)**
  If several monitors are turned on at the same time and all start degaussing at the same time, there will be a very large current draw on the power supply for a few moments. To prevent this, the delay time between power-up and degaussing can be set for each monitor independently.
- **Setting of the contrast and brightness after adjusting the white balance (CONT/BRT HOLD menu)**
  Selects if the adjusted contrast and brightness are retained or they are reset to the center values, when the color temperature is adjusted in the COLOR TEMP ADJ menu.
- **Assigning shortcut to the COLOR TEMP ADJ menu to the F2 key (COL TEMP SHORT-CUT menu)**
  Assigns the shortcut to the MANUAL menu of the COLOR TEMP ADJ menu to the F2 key. This allows you to jump directly to the MANUAL menu corresponding to the color temperature set to the currently displayed image (STD/COL 1/COL 2.)
- **Auto color control (ACC SW menu) (when using the BKM-127W)**
  Selects if the ACC (Auto Color Control) circuit is turned on or off.
- **Selecting the monitor to copy the original data (CONFIG COPY menu)**
  Setting data of the INPUT CONFIG and SYSTEM CONFIG (except the DEGAUSS DELAY data) menus can be copied from the serial connected monitor.

The SYSTEM CONFIG (2/2) menu is used for the following settings:

- **Display mode and position of the signal format (FORMAT DISPLAY and POSITION menus)**
- **Display mode and position of the channel number (CH NO and POSITION menus)**
- **Display mode and position of the channel name (CH NAME and POSITION menus)**
- **Display mode of the caption (CAPTION menu)**

- **Maintenance (MAINTENANCE menu)**
  This is for a service qualified personnel.

Structure of the SYSTEM CONFIG Menu



Setting Lists of the SYSTEM CONFIG Menu

This section explains the setting lists displayed in the menu.

How to read the setting lists

- For purposes of explanation, each setting list is preceded by a menu number. These numbers are not displayed on the screen.
  For more information about the menu number, see "About menu numbers" on page 26(E).
- The arrow mark (⇨) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.
- The factory setting is shown in the brackets.

E (1/2) SYSTEM CONFIG (1/2) menu

Set each of the following items.

STANDBY MODE: Select the power-up condition when the MAIN POWER switch is turned on (BVM-D14H1U/D14H1E/D14H1A/D14H5U/D14H5E/D14H5A) or when the battery is installed (BVM-D9H1U/D9H1E/D9H1A/D9H5U/D9H5E/D9H5A.)
ON: Standby mode
[OFF]: Operation mode

DEFAULT CH: Select the power-up input channel (LAST or CH x).
[LAST]: Set the channel to the channel that was selected at the time the power was last turned off.
CH x: Set the channel to a specific channel number.

DEGAUSS DELAY: Set the time between power-up and the beginning of degaussing. Enter the desired time (in seconds, 0 to 255).

CONT/BRT HOLD: Select the contrast and brightness settings to the center or adjusted value after adjusting the white balance or auto adjustment of CONTROL PRESET ADJ (OFF or ON).
ON: The contrast and brightness are set to the value before adjusting.
[OFF]: The contrast and brightness are set to the center value (100) after adjusting.

COL TEMP SHORT-CUT: Assign the shortcut function to the MANUAL menu of the COLOR TEMP ADJ menu to F2 key (OFF or F2).
F2: Assigns the shortcut to the MANUAL menu of the COLOR TEMP ADJ menu.
[OFF]: Does not assign the shortcut to the MANUAL menu of the COLOR TEMP ADJ menu.

ACC SW: Set the automatic color control switch (OFF or ON).

CONFIG COPY...: Copy setting data of the INPUT CONFIG and SYSTEM CONFIG (except the DEGAUSS DELAY data) menus from the serial connected BVM-D9H/D14H monitor. ⇨E11

E11 MONITOR ADDRESS menu

Set the address number of the monitor to be copied.

E (2/2) SYSTEM CONFIG (2/2) menu

Select items to be displayed on the screen.

FORMAT DISPLAY: Select the display mode of the signal format. ⇨E2 (2/2)
POSITION: Select the display position of the signal format. ⇨E2 (2/2)

CH NO: Select the display mode of the channel number. ⇨E3 (2/2)
POSITION: Select the display position of the channel number. ⇨E3 (2/2)

CH NAME: Select the display mode of the channel name. ⇨E4 (2/2)
POSITION: Select the display position of the channel name. ⇨E4 (2/2)

CAPTION: Select the caption display mode. ⇨E5 (2/2)

MAINTENANCE...: Menu for service personnel.

E2 (2/2) FORMAT DISPLAY and POSITION menus

FORMAT DISPLAY menu
Select the display mode of the signal format.
[AUTO]: Disappears after displayed for a while.
ON: Displayed.
OFF: Not displayed.

POSITION menu
Select the display position.
[BOTTOM LEFT]
BOTTOM CENTER
BOTTOM RIGHT
TOP LEFT
TOP CENTER
TOP RIGHT

E3 (2/2) CH NO and POSITION menus

CH NO menu
Select the display mode of the channel number.
[AUTO]: Disappears after displayed for a while.
ON: Displayed.
OFF: Not displayed.

POSITION menu
Select the display position.
BOTTOM LEFT
BOTTOM CENTER
[BOTTOM RIGHT]
TOP LEFT
TOP CENTER
TOP RIGHT

E4 (2/2) CH NAME and POSITION menus

CH NAME menu
Select the display mode of the channel name.
[AUTO]: Disappears after displayed for a while.
ON: Displayed.
OFF: Not displayed.

POSITION menu
Select the display position.
BOTTOM LEFT
BOTTOM CENTER
BOTTOM RIGHT
[TOP LEFT]
TOP CENTER
TOP RIGHT

E5 (2/2) CAPTION menu

Select the caption display mode.
[OFF]: Not displayed
CAPTION 1: Displayed in CAPTION 1 mode.
CAPTION 2: Displayed in CAPTION 2 mode.
TEXT 1: Displayed in TEXT 1 mode.
TEXT 2: Displayed in TEXT 2 mode.

F Displaying Information About the Monitor — STATUS Menu

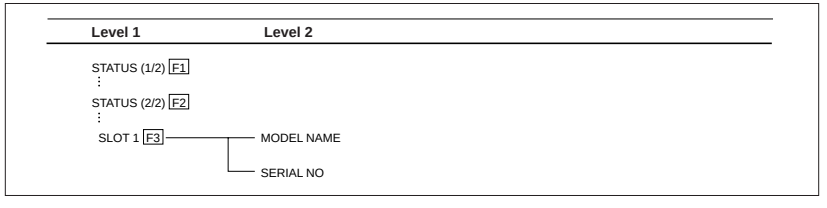
Overview

The STATUS menu is used to view general data about the monitor and information about signals assigned to the slots in the rear panel.

The following information is displayed on the two pages of the STATUS menu.

- **Data about the current channel (STATUS menu (1/2))**
- **Data about the monitor in use and data about the input adaptors installed into the slots on the rear panel (STATUS menu (2/2))**

Structure of the STATUS Menu



Setting Lists of the STATUS Menu

This section explains the setting lists displayed in the menu.

How to read the setting lists

- For purposes of explanation, each setting list is preceded by a menu number. These numbers are not displayed on the screen.
  For more information about the menu number, see "About menu numbers" on page 26(E).
- The arrow mark (⇨) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.

F STATUS menu

Select the STATUS menu 1/2 or 2/2. ⇨F1

F1 STATUS (1/2) menu

Data about the current channel is displayed.
CH: channel number
SL: slot number
IN: input connector number
FORMAT: format of the input signal
NAME: channel name

F2 STATUS (2/2) menu

Data about the monitor is displayed at the upper half of the display.
MODEL NAME: model name
SERIAL NO: serial number
OPERATION TIME: operation time (in hours)
SOFTWARE VERSION: software version

Data about the input adaptors installed into the respective slots in the rear panel is displayed at the lower half of the display.
When the BKM-129X is installed in SLOT 1, the following is displayed. When any optional boards are not installed, EMPTY is displayed for SLOT 2 and SLOT 3.
SLOT1: COMPONENT ⇨F3
SLOT2: EMPTY ⇨F3
SLOT3: EMPTY ⇨F3

F3 SLOT 1 to 3 menu

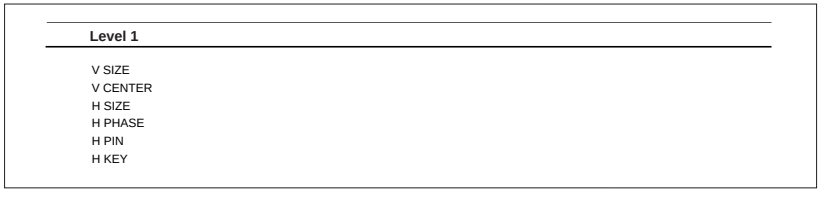
Select the desired slot. Data about the optional board installed in the selected slot is displayed.
MODEL NAME: Model name of that optional board
SERIAL NO: Serial number of that circuit board

G Adjusting the Position, Size and Geometry of the Picture — ALIGNMENT Menu

Overview

The ALIGNMENT menu is used for adjusting the position, size and geometry of the picture.

Structure of the ALIGNMENT Menu



Setting Lists of the ALIGNMENT Menu

This section explains the setting lists displayed in the menu.

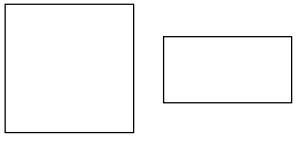
How to read the setting lists

- For purposes of explanation, each setting list is preceded by a menu number. These numbers are not displayed on the screen.
  For more information about the menu number, see "About menu numbers" on page 26(E).

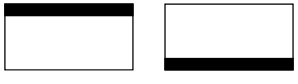
G Adjusting the Position, Size and Geometry of the Picture — ALIGNMENT Menu

G ALIGNMENT menu
Adjust the position, size or geometry of the picture with the UP and DOWN buttons or PHASE knob.

V SIZE: Adjust the height of the picture.

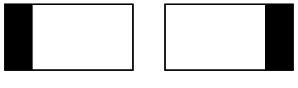


V CENTER: Adjust the vertical picture position.

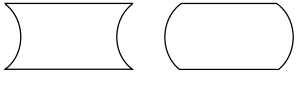


H SIZE: Adjust the width of the picture.

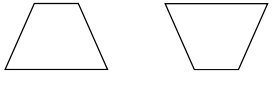
H PHASE: Adjust the horizontal picture position.



H PIN: Correct side pincushion distortion.



H KEY: Correct trapezoid distortion.

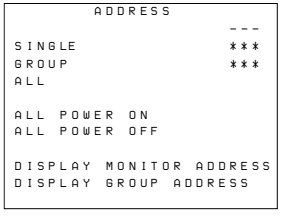


(continued)

Selecting the Monitor to Control — ADDRESS Menu

Overview

When multiple monitors are connected by a serial remote connection, the ADDRESS menu is used to choose whether one particular monitor or monitor group will be controlled, or whether operations are to be performed on all monitors together.



ADDRESS Menu

Displaying the ADDRESS Menu

Press the ADDRESS button.
The ADDRESS menu is displayed on the screen.
By pressing the ENTER or Ent button after selecting the item, serial remote operation becomes activated.

Settings made with the menu items are as follows:

Item	Function
SINGLE	Controls only a specified monitor. Enter the monitor address number.
GROUP	Controls only a specified monitor group. Enter the group address number.
ALL	Controls all monitors.
ALL POWER ON	Turns all connected monitors on.
ALL POWER OFF	Turns all connected monitors off.
DISPLAY MONITOR ADDRESS	When this item is selected, each connected monitor displays its monitor address on its screen.
DISPLAY GROUP ADDRESS	When this item is selected, each connected monitor displays its group address on its screen.

Notes

- To remotely control monitors connected in serial, MONITOR ADDRESS or GROUP ADDRESS of monitors should be correctly set in the REMOTE menu.
  For details of the REMOTE menu, see "D Assigning the Remote Control Functions – REMOTE Menu" on page 37(E).
  - In GROUP or ALL mode, the LEDs of the function buttons will not light with controlled from the menu. (LEDs light only when you press the function button.)
  - In GROUP or ALL mode, LEDs of controlled monitor will light as follows.
- **In case of SHIFT OFF before remote control operation:** LEDs light in green when the SHIFT button is remotely set to OFF.
  For details, see "SHIFT button" on page10(E) for BVM-D9H5U/D9H5E/D9H5A or on page 19(E) for BVM-D14H5U/D14H5E/D14H5A.
- **In case of SHIFT ON before remote control operation:** LEDs light in amber when the SHIFT button is remotely set to ON.
  For details, see "SHIFT button" on page11(E) for BVM-D9H5U/D9H5E/D9H5A or on page 20(E) for BVM-D14H5U/D14H5E/D14H5A.

Cancelling the Remote Control Mode

To cancel the remote control mode, press the ADDRESS button.

Exiting the ADDRESS Menu

To exit the ADDRESS menu, press the ADDRESS button or the MENU button.

Short-cut Function in the ADDRESS Menu

When selecting the monitor, short-cut function will enable to select the target monitor without using the items in the ADDRESS menu. The operation procedure is as follows.

To select the monitor in the SINGLE mode

1 Press the ADDRESS button.

2 Press the address number of the target monitor.
Press one digit address number on the numeric keypad when it is from 1 to 9.
Press three digits address number (press 0 button and then press the two-digit address number) when it is from 10 to 99.

To select the monitors in the GROUP mode

1 Press the ADDRESS button.

2 Press the F1 button.

3 Press the group number of the target monitor.
Press one digit group address number when it is from 1 to 9.
Press three digits group address number (press 0 button and then press the two-digit group number) when it is from 10 to 99.

To select all the monitors in the ALL mode

1 Press the ADDRESS button.

2 Press the F2 button.

Specifications

General

System 15.625 kHz – 45 kHz
(For details, see "Available Signal Format" on page 53(E).)

CRT

BVM-D9H1U/D9H1E/D9H1A/D9H5U/D9H5E/D9H5A

HR Trinitron, 4:3 aspect ratio
Aperture grille pitch: 0.25 mm
90 degree deflection, 21.6 mm diameter in-line gun
Effective picture size with 16:9 aspect ratio:
155.4 × 87.4 mm (6 1/8 × 3 1/2 inches) (w/h)
178 mm (7 inches) (diagonal size)
Effective picture size with 4:3 aspect ratio:
155.4 × 115 mm (6 1/8 × 4 5/8 inches) (w/h)
190.7 mm (7 1/2 inches) (diagonal size)
CRT protection: EHT (extremely high tension) protection type
Warm-up time: approx. 30 minutes
Anode voltage: 15 kV with no beam current

BVM-D14H1U/D14H1E/D14H1A/D14H5U/D14H5E/D14H5A

HR Trinitron, 4:3 aspect ratio
Aperture grille pitch: 0.25 mm
90 degree deflection, 29.4 mm diameter in-line gun
Effective picture size with 16:9 aspect ratio:
267.5 × 150.5 mm (10 5/8 × 6 inches) (w/h)
306.9 mm (12 1/8 inches) (diagonal size)
Effective picture size with 4:3 aspect ratio:
267.5 × 200.6 mm (10 5/8 × 8 inches) (w/h)
331.6 mm (13 1/8 inches) (diagonal size)
CRT protection: EHT (extremely high tension) protection type
Warm-up time: approx. 30 minutes
Anode voltage: 23 kV with no beam current

Nominal chromaticity coordinates:

EBU phosphor

	x	y
R	0.640	0.330
G	0.290	0.600
B	0.150	0.060

Dimensions (w/h/d)

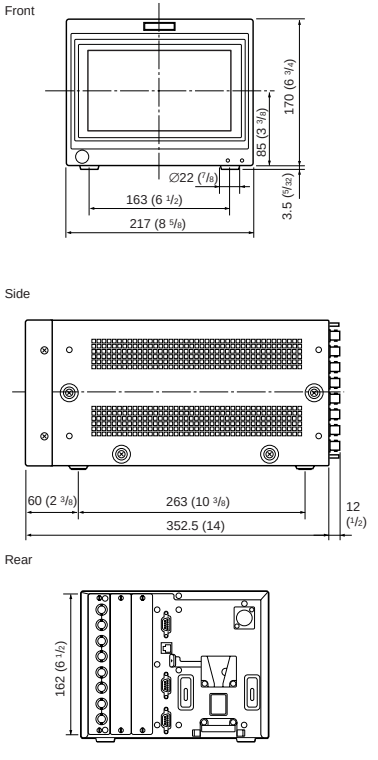
BVM-D9H1U/D9H1E/D9H1A:
approx. 217 × 174 × 364.5mm (8 5/8 × 6 7/8 × 14 3/8 inches)
when the AC adaptor is installed:
approx. 217 × 174 × 419.5mm (8 5/8 × 6 7/8 × 16 5/8 inches)
BVM-D9H5U/D9H5E/D9H5A:
approx. 217 × 218 × 364.5mm (8 5/8 × 8 5/8 × 14 3/8 inches)
when the AC adaptor is installed:
approx. 217 × 218 × 419.5mm (8 5/8 × 8 5/8 × 16 5/8 inches)
BVM-D14H1U/D14H1E/D14H1A:
approx. 346 × 280 × 519mm (13 5/8 × 11 1/8 × 20 1/2 inches)
BVM-D14H5U/D14H5E/D14H5A:
approx. 482 × 280 × 519mm (19 × 11 1/8 × 20 1/2 inches)

Specifications

Dimensional drawing

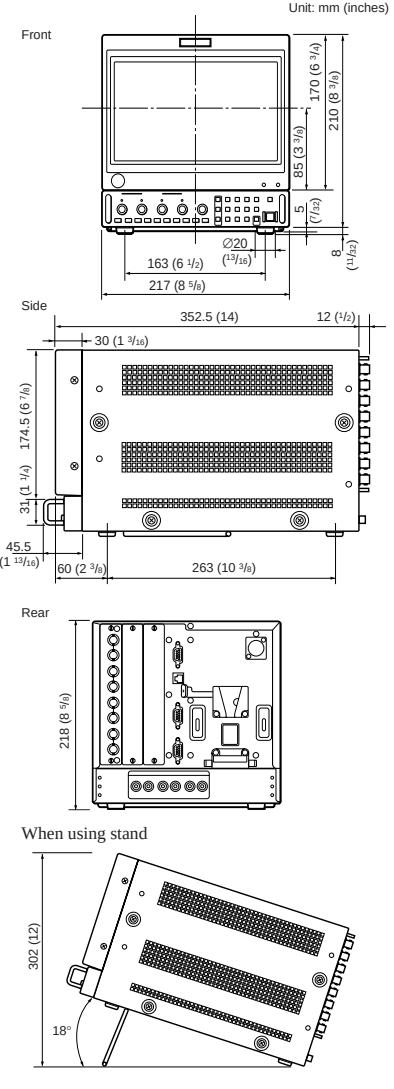
BVM-D9H1U/D9H1E/D9H1A

Unit: mm (inches)



BVM-D9H5U/D9H5E/D9H5A

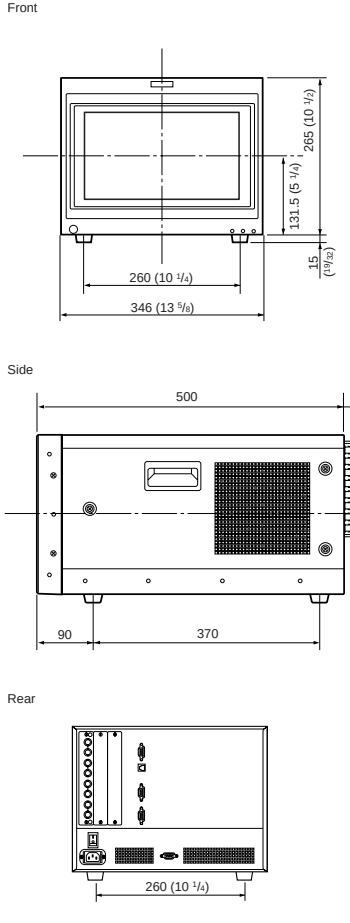
Unit: mm (inches)



When using stand

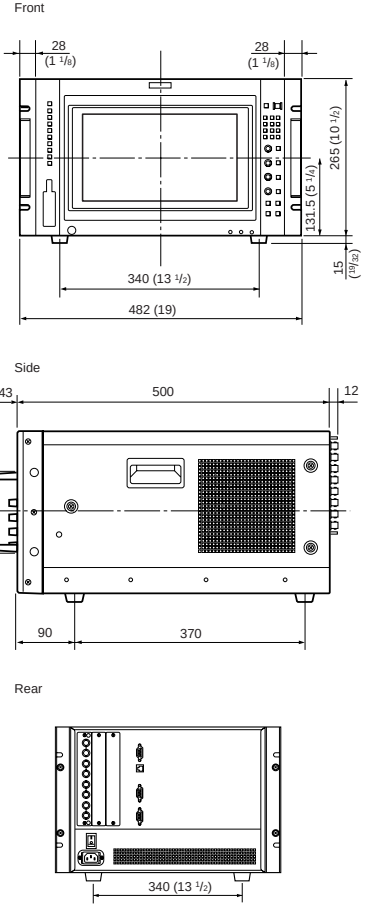
BVM-D14H1U/D14H1E/D14H1A

Unit: mm (inches)



BVM-D14H5U/D14H5E/D14H5A

Unit: mm (inches)



Specifications

Mass
BVM-D9H1U/D9H1E/D9H1A:
approx. 8.1 kg (17 lb 14 oz)
when the AC adaptor is installed:
approx. 8.9 kg (19 lb 10 oz)
BVM-D9H5U/D9H5E/D9H5A:
approx. 9.3 kg (20 lb 8 oz)
when the AC adaptor is installed:
approx. 10.1 kg (22 lb 4 oz)
BVM-D14H1U/D14H1E/D14H1A:
approx. 21 kg (46 lb 5 oz)
BVM-D14H5U/D14H5E/D14H5A:
approx. 23 kg (50 lb 11 oz)

Power consumption
BVM-D9H1U/D9H1E/D9H1A/
D9H5U/D9H5E/D9H5A:
85 W max. (an optional BKM-142HD or BKM-120D is installed)
60 W typical (the supplied analog component input adaptor is installed)
BVM-D14H1U/D14H1E/D14H1A/
D14H5U/D14H5E/D14H5A:
115 W max. (an optional BKM-142HD or BKM-120D is installed)
100 W typical (the supplied analog component input adaptor is installed)

Peak inrush current
(1) Power ON, current probe method: 80 A (240 V) (BVM-D9H1U/D9H1E/D9H1A/D9H5U/D9H5E/D9H5A),
45 A (240 V) (BVM-D14H1U/D14H1E/D14H1A/D14H5U/D14H5E/D14H5A)
(2) Hot switching inrush current, measured in accordance with European standard EN55103-1: 10 A (230 V) (BVM-D9H1U/D9H1E/D9H1A/D9H5U/D9H5E/D9H5A),
20 A (230 V) (BVM-D14H1U/D14H1E/D14H1A/D14H5U/D14H5E/D14H5A)

Power requirements
BVM-D9H1U/D9H1E/D9H1A/
D9H5U/D9H5E/D9H5A:
AC 100 to 240 V, 50/60 Hz, DC $12V^{+5}_{-1}$ V
BVM-D14H1U/D14H1E/D14H1A/
D14H5U/D14H5E/D14H5A:
AC 100 to 240 V, 50/60 Hz

Input/output connectors

Video input/output BNC type × 3 (with loop-through outputs, 75-ohm automatic termination)
R/G/B: 1 Vp-p ±6 dB, positive, high impedance
Y: 1 Vp-p ±6 dB, high impedance
PB/PR: 0.7 Vp-p ±6 dB, high impedance

Sync input/output BNC type × 1 (with loop-through output, 75-ohm automatic termination)
Composite sync: 0.3 to 8 Vp-p, positive/negative tri-level sync signal input or negative bi-level sync signal input, high impedance

Return loss More than 40 dB (10 MHz, with 75-ohm termination)

Remote control OPTION: Mini-DIN 8-pin × 1
CONTROL UNIT:
D-sub 9-pin × 1 (BVM-D9H1U/D9H1E/D9H1A[1], BVM-D14H1U/D14H1E/D14H1A only)
PARALLEL REMOTE 1:
D-sub 9-pin × 1
PARALLEL REMOTE 2:
Modular connector 6-pin
SERIAL REMOTE: D-sub 9-pin × 2[1] (with loop-through output)

Audio input (BVM-D9H5U/D9H5E/D9H5A only)
Phono jack × 3 (with loop-through output)

1) BVM-D9H1U/D9H1E/D9H1A is swithced to REMOTE or CTRL UNIT with the select switch.

Video signal

Frequency response
575/50I, 480/60I component inputs
BVM-D9H1U/D9H1E/D9H1A/
D9H5U/D9H5E/D9H5A/
D14H1U/D14H1E/D14H1A/
D14H5U/D14H5E/D14H5A:
50Hz to 10MHz (0 dB/–3 dB)
Models other than the above or RGB inputs
BVM-D9H1U/D9H1E/D9H1A/
D9H5U/D9H5E/D9H5A:
48 Hz to 17 MHz, (1 dB/ –3 dB)
BVM-D14H1U/D14H1E/
D14H1A/D14H5U/D14H5E/
D14H5A:
48 Hz to 24 MHz, (0 dB/ –3 dB)

Aperture compensation[2]
OFF: 0 dB
ON: 2 dB to 6 dB
575/50I, 480/60I inputs: 5 MHz
Input other than the above: 16 MHz

Picture performance

Normal scan 5% overscan of CRT effective screen area (adjustable range greater than ±15%)

Underscan 3% underscan of CRT effective screen area (adjustable range greater than ±15%)

Linearity Within a central area bounded by a circle with a diameter equal to the picture height, less than 1.0 % of the picture height, and outside the same area, about 2.0 % of the picture height

Color temperature
D93, D65 (adjustable to other color temperatures)

Convergence error
Within a central area bounded by a circle with a diameter equal to the picture height.
Less than 0.4 mm with a central area bounded by a circle and less than 0.7 mm at any other point.

Standard luminescence
120 cd/m² (at standard 1 Vp-p 100% white signal)

Raster size stability
Less than 1% of picture height (at 120 cd/m² peak luminescence, 10 to 90% APL)

Resolution (at screen center, 120 cd/m² luminescence)
BVM-D9H1U/D9H1E/D9H1A/
D9H5U/D9H5E/D9H5A:
340 TV lines (16:9)
450 TV lines (4:3)
BVM-D14H1U/D14H1E/D14H1A/
D14H5U/D14H5E/D14H5A:
600 TV lines (16:9)
800 TV lines (4:3)

Operating conditions

Temperature	0°C to 35°C (32°F to 95°F)
Optimum temperature	20°C to 30°C (68°F to 86°F)
Humidity	0% to 90% (no condensation)
Pressure	700 hPa to 1060 hPa

Storage and transport conditions

Temperature	–10°C to 40°C (14°F to 104°F)
Humidity	0% to 90%
Pressure	700 hPa to 1060 hPa

2) The aperture cannot be compensated for RGB input signals.

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Specifications

Accessories supplied

AC power cord (1)
AC adaptor (1) (BVM-D9H1U/D9H1E/D9H1A/
D9H5U/D9H5E/D9H5A only)
AC plug holder (1)
Tally plate (1)
4:3 mask (1)
Operation manual (1)

Acquired safety regulations

UL1950, CSA950
FCC Class A, IC Class A
DHHS, DNHW
TÜV (EN60950), PTB
CE-Marking, C-tick Mark

Design and specifications are subject to change without notice.

Available Signal Format

System	Total lines per frame	Active lines per frame	** Frame rate (Hz)	Scanning format	Aspect	Standard
575/50I (*PAL)	625	575	25	2:1 interlace	16:9/4:3	ITU 601
480/60I (*NTSC)	525	483	30	2:1 interlace	16:9/4:3	ITU 601
575/50P	625	575	50	Progressive	16:9/4:3	–
480/60P	525	483	60	Progressive	16:9/4:3	SMPTE 293M
1080/48I	1125	1080	24	2:1 interlace	16:9	–
1080/50I	1125	1080	25	2:1 interlace	16:9	SMPTE 294M
1035/60I	1125	1035	30	2:1 interlace	16:9	BTA S-001B
1080/60I	1125	1080	30	2:1 interlace	16:9	SMPTE 274M/BTA S-001B
720/60P	750	720	60	Progressive	16:9	SMPTE 296M

* Available when the optional adaptor is installed.
** Also compatible with $^{1}/_{1.001}$.

Connection Cable Specifications for Color Temperature Probes

Special cables are required to connect color temperature probes other than the Sony BKM-14L to the monitor.

The following diagrams show specifications and pin assignments for the required cables.

Connection cable for GRASEBY SLS 9400 probe

Modular connector

Mini DIN 8-pin connector (male)

Signal	Pin Number
N.C.	1
GND	2
RXD	3
TXD	4
GND	5
N.C.	6

Signal	Pin Number
1	NC
2	NC
3	RTS
4	GND
5	N.C.
6	TXD
7	+5V
8	RXD

Connection cable for MINOLTA CA-100 probe

D-sub 25-pin connector (male)

Mini DIN 8-pin connector (male)

Signal	Pin Number
N.C.	1
TXD	2
RXD	3
RTS	4
CTS	5
N.C.	6
GND	7
N.C.	8 to 25

Signal	Pin Number
1	NC
2	NC
3	RTS
4	GND
5	N.C.
6	TXD
7	+5V
8	RXD

Connection cable for PHILIPS PM 5639 probe (corresponds to PHILIPS PM 5639/64 cable)

Modular connector

Mini DIN 8-pin connector (male)

Signal	Pin Number
+5V	1
N.C.	2
RXD	3
TXD	4
N.C.	5
GND	6

Signal	Pin Number
1	NC
2	NC
3	RTS
4	GND
5	N.C.
6	TXD
7	+5V
8	RXD

Connection cable for THOMA TF6 probe

D-sub 15-pin connector (female)

Mini DIN 8-pin connector (male)

Signal	Pin Number
N.C.	1
RXD	2
TXD	3
N.C.	4
N.C.	5
N.C.	6
GND	7
N.C.	8 to 15

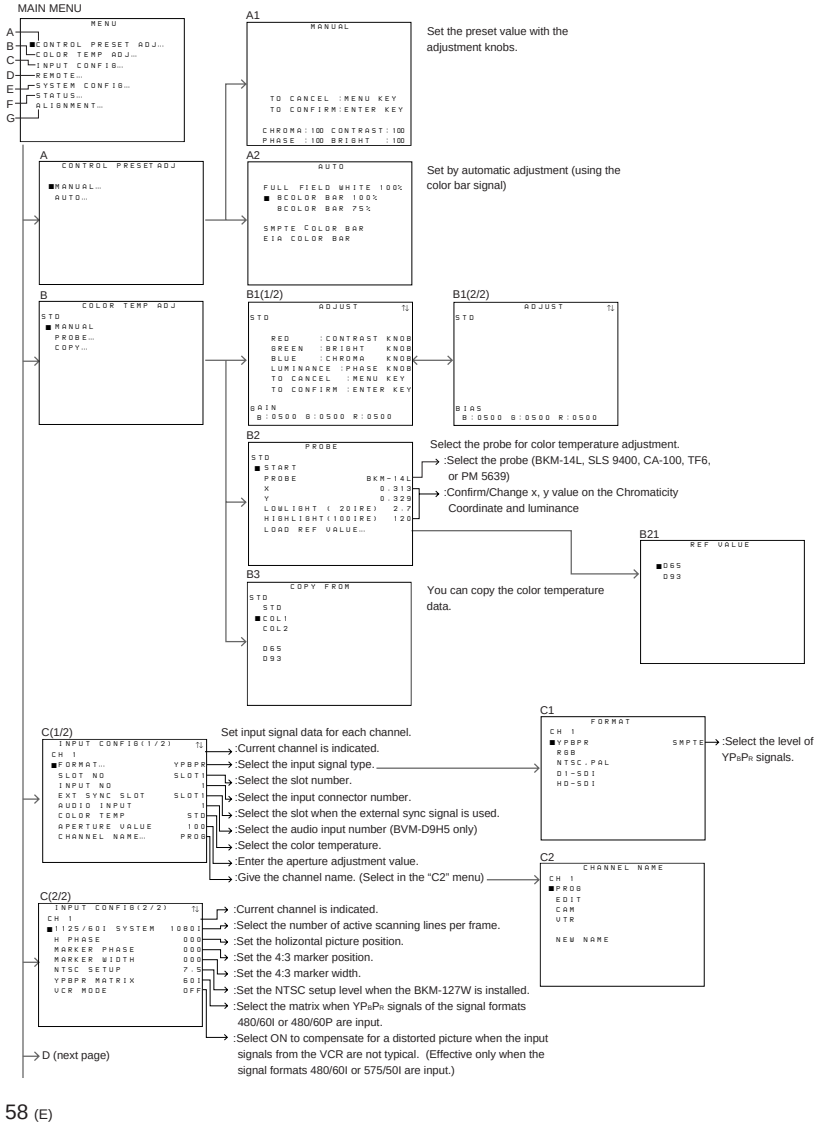
Signal	Pin Number
1	NC
2	NC
3	RTS
4	GND
5	N.C.
6	TXD
7	+5V
8	RXD

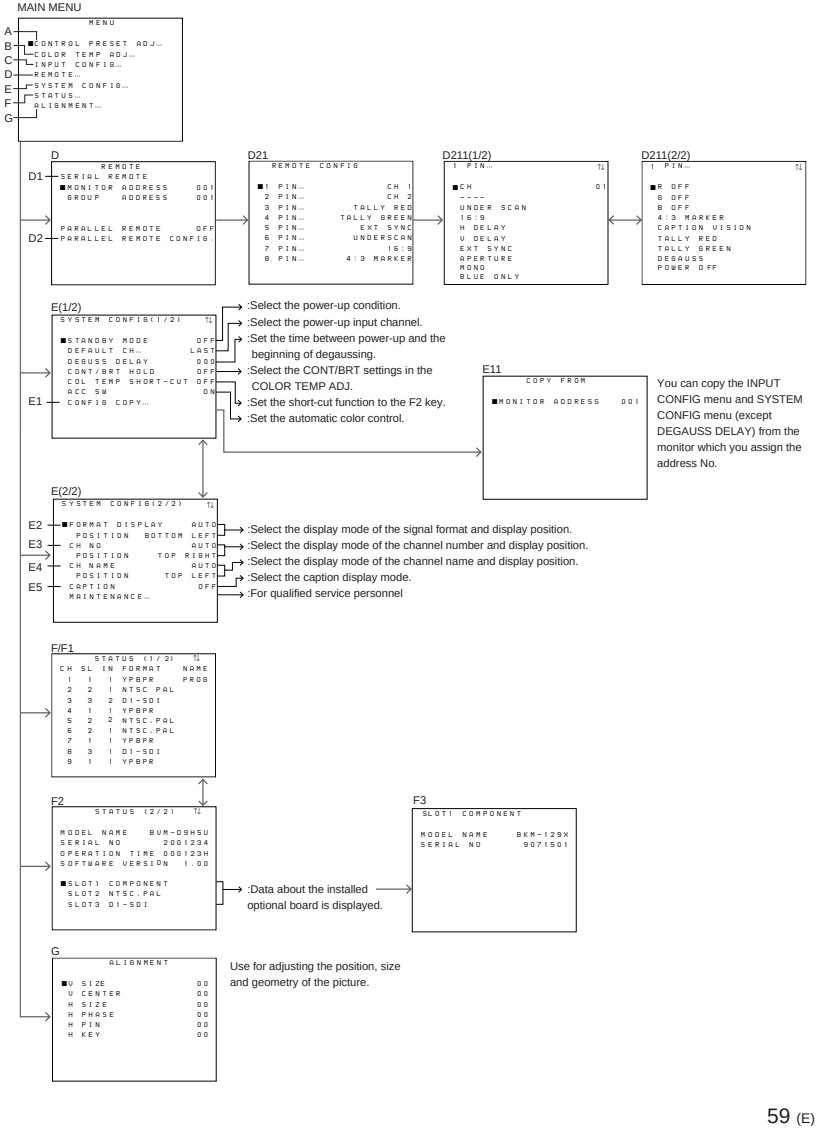
Menu Index

The menu index shows the menu items provided with this monitor in alphabetical order. For you reference, each menu item is followed by the page of this manual on which the item is explained, its menu number, and the Main Menu that the item belongs to.

Menu Item		Page	Menu number	Main menu
A	ACC SW	41(E)	–	SYSTEM CONFIG menu
	ADDRESS	45(E)	–	ADDRESS menu
	ADJUST	34(E)	–	COLOR TEMP ADJ menu
	ALIGNMENT	44(E)	G	ALIGNMENT menu
	APERTURE VALUE	36(E)	–	INPUT CONFIG menu
	AUDIO INPUT	36(E)	–	INPUT CONFIG menu
	AUTO	32(E)	A2	CONTROL PRESET ADJ menu
B	BRIGHT	32(E)	–	CONTROL PRESET ADJ menu
C	CAM	36(E)	–	INPUT CONFIG menu
	CAPTION	41(E)	E5	SYSTEM CONFIG menu
	CH	38(E)	D211	REMOTE menu
		40(E)	–	SYSTEM CONFIG menu
	CH NAME	41(E)	E4	SYSTEM CONFIG menu
	CH NO	41(E)	E3	SYSTEM CONFIG menu
	CHANNEL NAME	36(E)	C2	INPUT CONFIG menu
	CHROMA	32(E)	–	CONTROL PRESET ADJ menu
	COL TEMP SHORT-CUT	41(E)	–	SYSTEM CONFIG menu
	COL1	34(E)	–	COLOR TEMP ADJ menu
	COL2	34(E)	–	COLOR TEMP ADJ menu
	COLOR TEMP	36(E)	–	INPUT CONFIG menu
	COLOR TEMP ADJ	33(E)	B	COLOR TEMP ADJ menu
	CONFIG COPY	41(E)	E1	SYSTEM CONFIG menu
	CONT/BRT HOLD	41(E)	–	SYSTEM CONFIG menu
	CONTRAST	32(E)	–	CONTROL PRESET ADJ menu
	CONTROL PRESET ADJ	31(E)	A	CONTROL PRESET ADJ menu
	COPY	34(E)	B3	COLOR TEMP ADJ menu
D	D1-SDI	36(E)	–	INPUT CONFIG menu
	D65	34(E)	–	COLOR TEMP ADJ menu
	D93	34(E)	–	COLOR TEMP ADJ menu
	DEFAULT CH	40(E)	–	SYSTEM CONFIG menu
	DEGAUSS DELAY	40(E)	–	SYSTEM CONFIG menu
E	EDIT	36(E)	–	INPUT CONFIG menu
	EIA COLOR BAR	32(E)	–	CONTROL PRESET ADJ menu
	ENTER PASSWORD	40(E)	–	SYSTEM CONFIG menu
	EXT SYNC SLOT	36(E)	–	INPUT CONFIG menu
F	FORMAT	36(E)	C1	INPUT CONFIG menu
	FORMAT DISPLAY	41(E)	E2	SYSTEM CONFIG menu
	FULL FIELD WHITE 100 %	31(E)	–	CONTROL PRESET ADJ menu
G	GROUP ADDRESS	38(E)	–	REMOTE menu
H	H KEY	44(E)	–	ALIGNMENT menu
	H SIZE	44(E)	–	ALIGNMENT menu
	H PHASE	36(E)	–	INPUT CONFIG menu
		44(E)	–	ALIGNMENT menu
	H PIN	44(E)	–	ALIGNMENT menu
	HD-SDI	36(E)	–	INPUT CONFIG menu
	HIGH LIGHT	34(E)	–	COLOR TEMP ADJ menu
I	INPUT CONFIG	35(E)	C	INPUT CONFIG menu
	INPUT NO	36(E)	–	INPUT CONFIG menu
L	LAST	40(E)	–	SYSTEM CONFIG menu
	LOAD REF VALUE	34(E)	B21	COLOR TEMP ADJ menu
	LOW LIGHT	34(E)	–	COLOR TEMP ADJ menu
M	MAINTENANCE	40(E)	E5	SYSTEM CONFIG menu
	MANUAL	32(E)	A1	CONTROL PRESET ADJ menu
		34(E)	B1	COLOR TEMP ADJ menu
	MARKER PHASE	36(E)	–	INPUT CONFIG menu
	MARKER WIDTH	36(E)	–	INPUT CONFIG menu
	MODEL NAME	42(E)	–	STATUS menu
	MONITOR ADDRESS	38(E)	–	REMOTE menu
		41(E)	E11	SYSTEM CONFIG menu
N	NEW NAME	36(E)	–	INPUT CONFIG menu
	NTSC, PAL	36(E)	–	INPUT CONFIG menu
	NTSC SET UP	36(E)	–	INPUT CONFIG menu
P	PARALLEL REMOTE	38(E)	–	REMOTE menu
	PARALLEL REMOTE CONFIG	38(E)	D2	REMOTE menu
	PHASE	32(E)	–	CONTROL PRESET ADJ menu
	POSITION	41(E)	–	SYSTEM CONFIG menu
	PROBE	34(E)	–	COLOR TEMP ADJ menu
	PROG	36(E)	–	INPUT CONFIG menu
R	REMOTE	37(E)	D	REMOTE menu
	RGB	35(E)	–	INPUT CONFIG menu
	R OFF	38(E)	D211	REMOTE menu
S	SERIAL NO	42(E)	–	STATUS menu
	SERIAL REMOTE	38(E)	D1	REMOTE menu
	SLOT 1	42(E)	F3	STATUS menu
	SLOT NO	36(E)	–	INPUT CONFIG menu
	SMPTE COLOR BAR	32(E)	–	CONTROL PRESET ADJ menu
	STANDBY MODE	40(E)	–	SYSTEM CONFIG menu
	START	34(E)	–	COLOR TEMP ADJ menu
	STATUS	42(E)	F	STATUS menu
	STD	34(E)	–	COLOR TEMP ADJ menu
	SYSTEM CONFIG	39(E)	E	SYSTEM CONFIG menu
V	V CENTER	44(E)	–	ALIGNMENT menu
	V SIZE	44(E)	–	ALIGNMENT menu
	VTR	36(E)	–	INPUT CONFIG menu
X	X	34(E)	–	COLOR TEMP ADJ menu
Y	Y	34(E)	–	COLOR TEMP ADJ menu
	YPBPR	36(E)	–	INPUT CONFIG menu
	YPBPR MATRIX	36(E)	–	INPUT CONFIG menu
1	1125/60I SYSTEM	36(E)	–	INPUT CONFIG menu
	1 PIN	38(E)	D21	REMOTE menu
2	2 PIN	38(E)	–	REMOTE menu
3	3 PIN	38(E)	–	REMOTE menu
4	4 PIN	38(E)	–	REMOTE menu
5	5 PIN	38(E)	–	REMOTE menu
6	6 PIN	38(E)	–	REMOTE menu
7	7 PIN	38(E)	–	REMOTE menu
8	8COLOR BAR 100%	32(E)	–	CONTROL PRESET ADJ menu
	8COLOR BAR 75%	32(E)	–	CONTROL PRESET ADJ menu
	8 PIN	38(E)	–	REMOTE menu

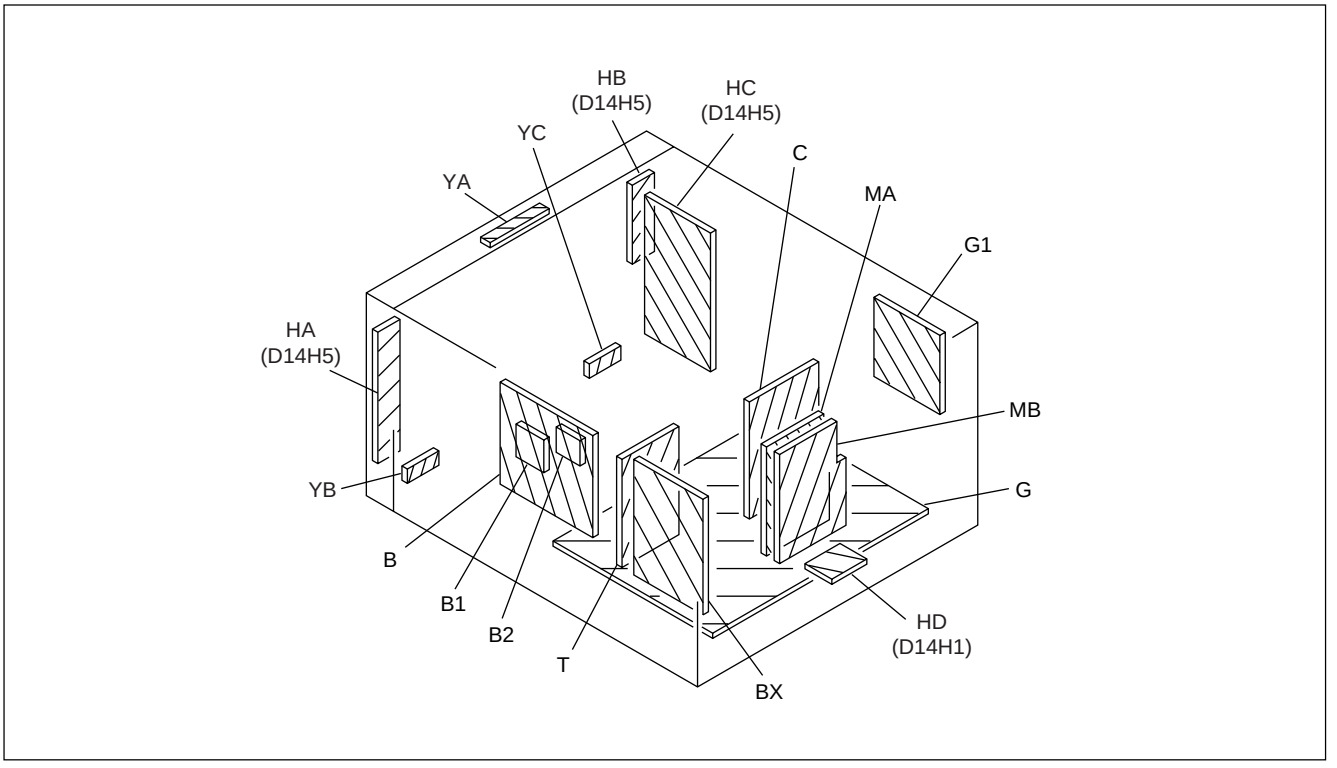
Menu Configuration



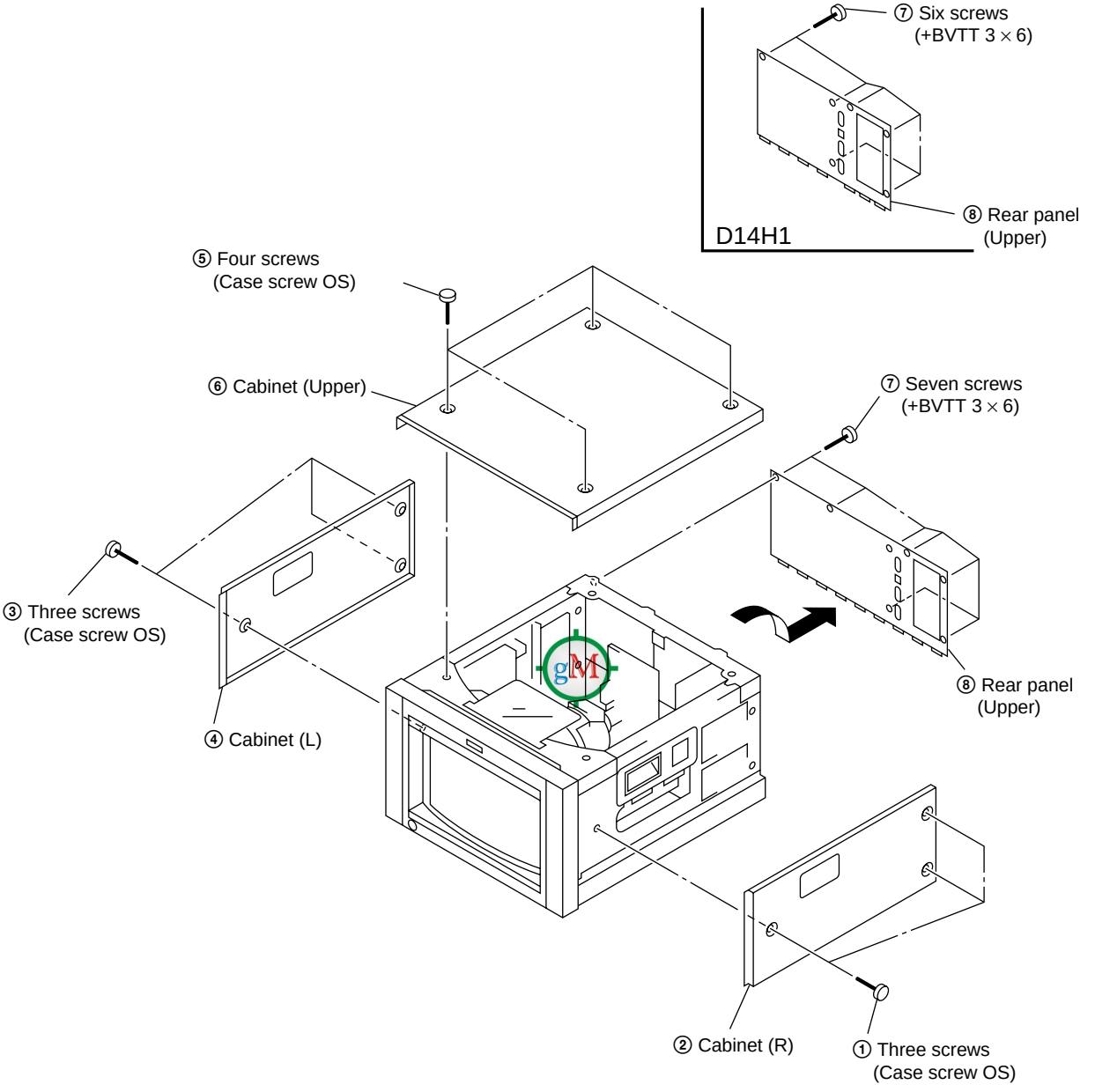


Section 2
Service Informations

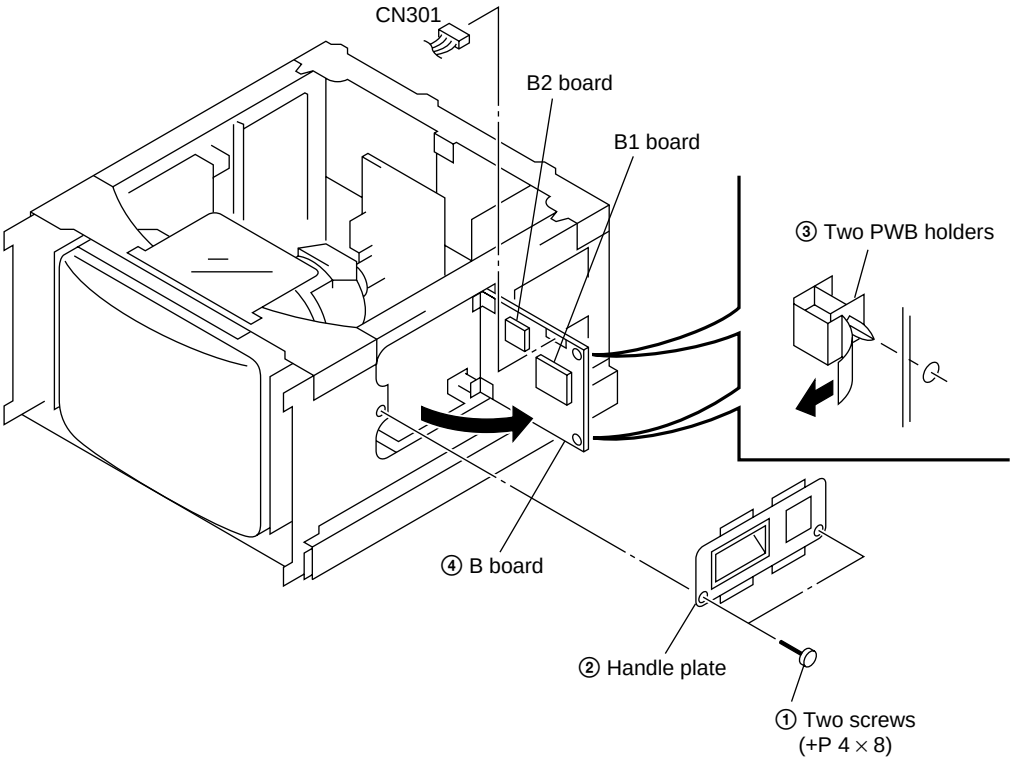
2-1. Circuit Boards Location



2-2-1. Cabinet and Rear Panel Removal

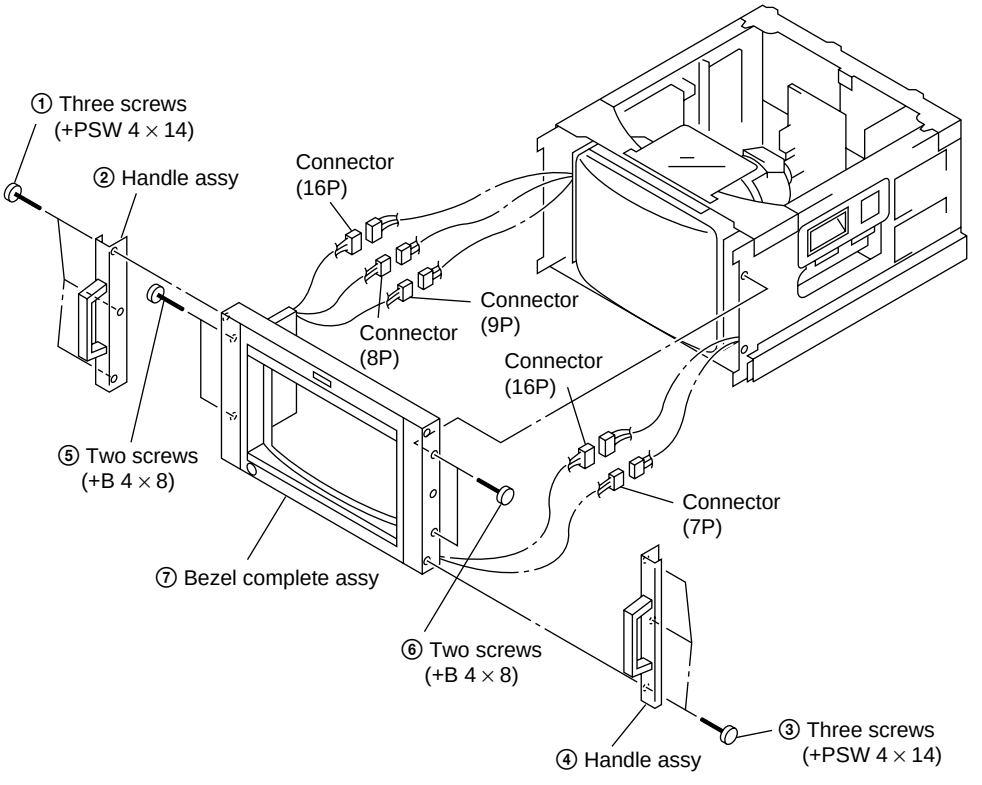


2-2-2. How To Open The B Board

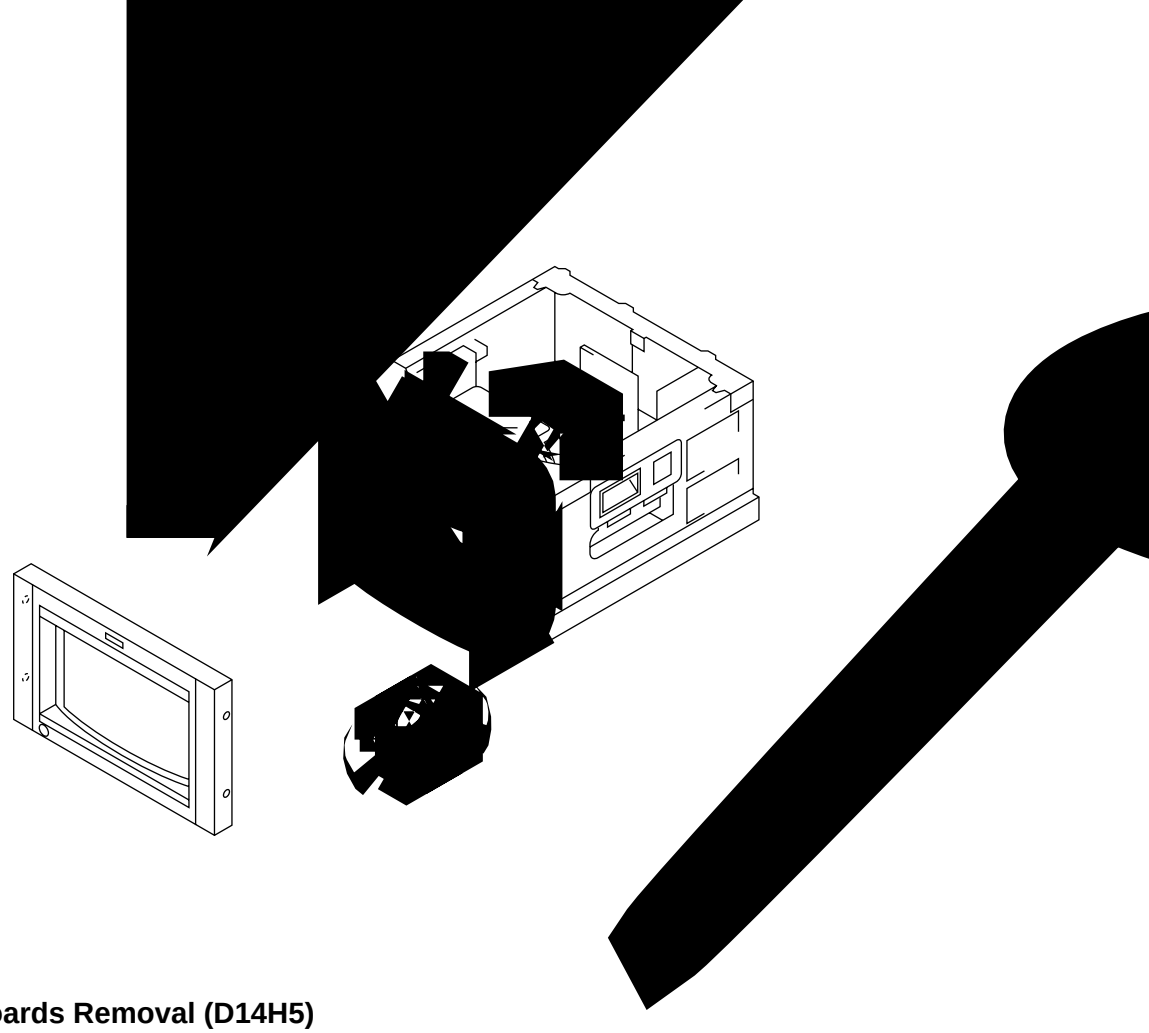


2-2-3. Bezel Complete Assy Removal

(1) D14H5

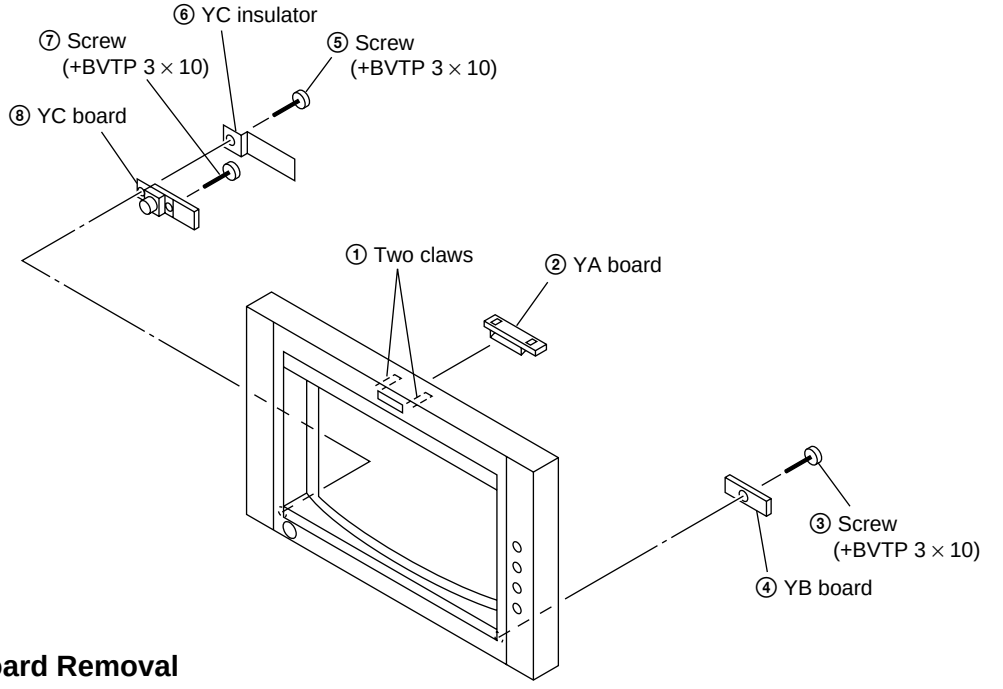


(2) D14H1

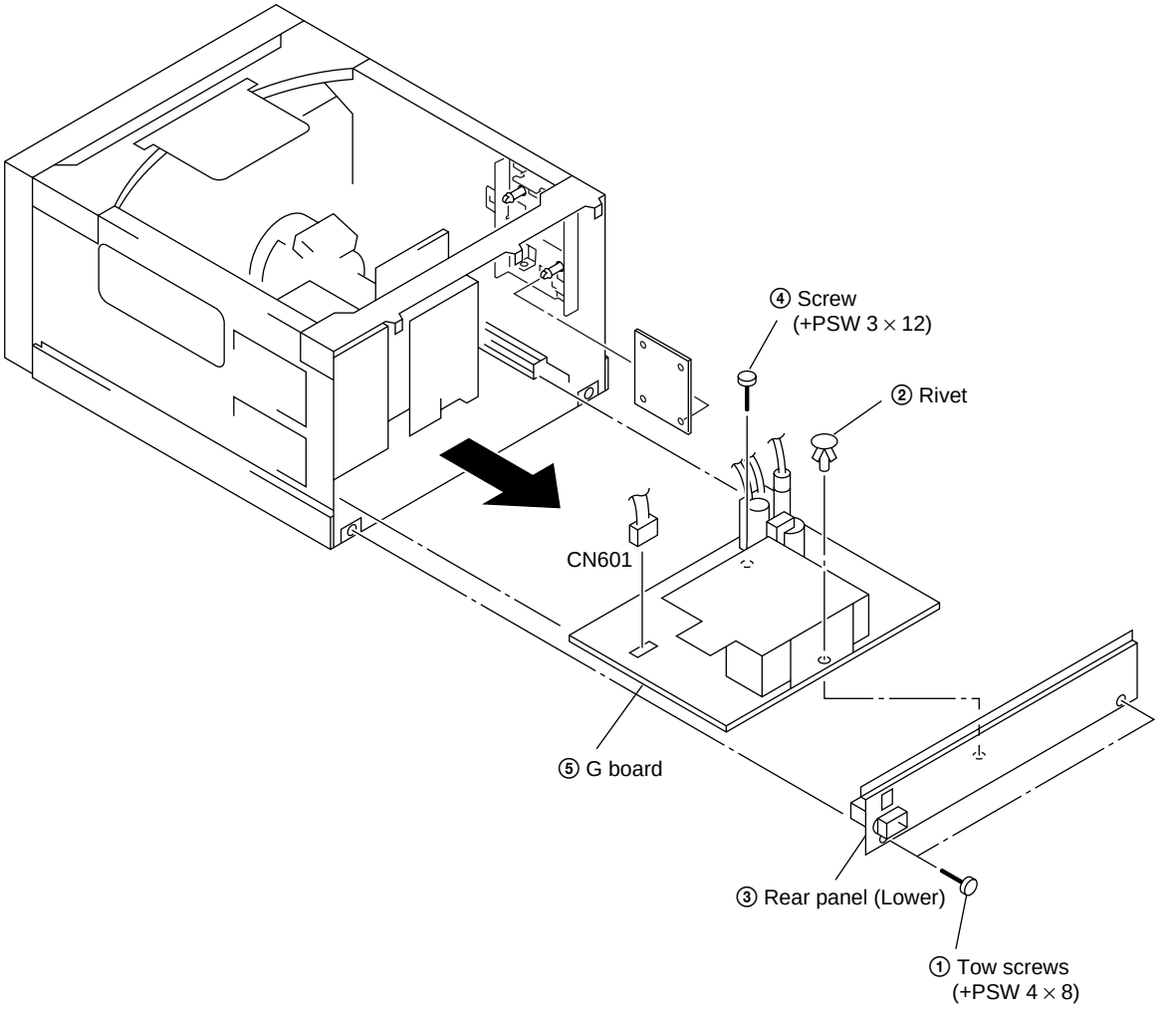


2-2-4. HA, HB and HC Boards Removal (D14H5)

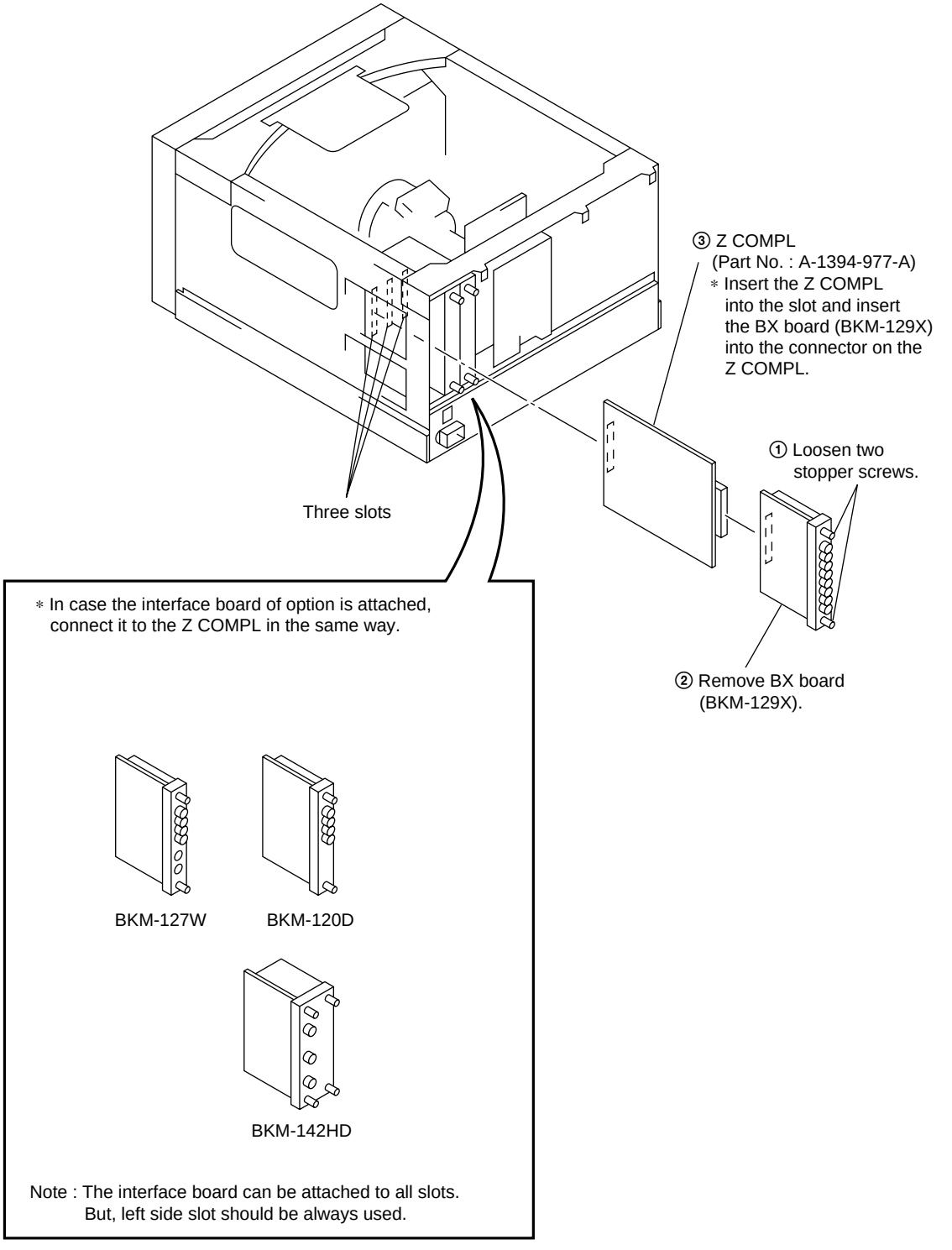
2-2-5. YA, YB and YC Boards Removal



2-2-6. G Board Removal



2-2-7. BX Board (BKM-129X) Removal and Check



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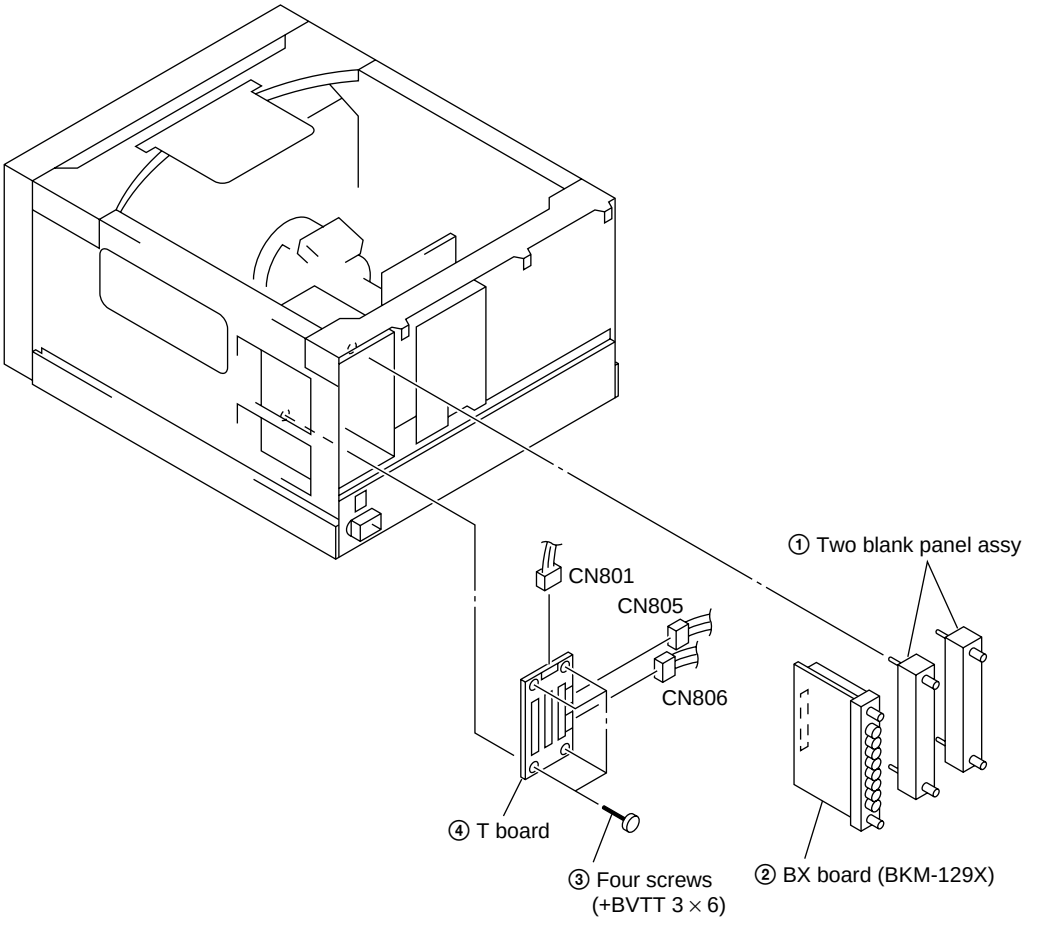
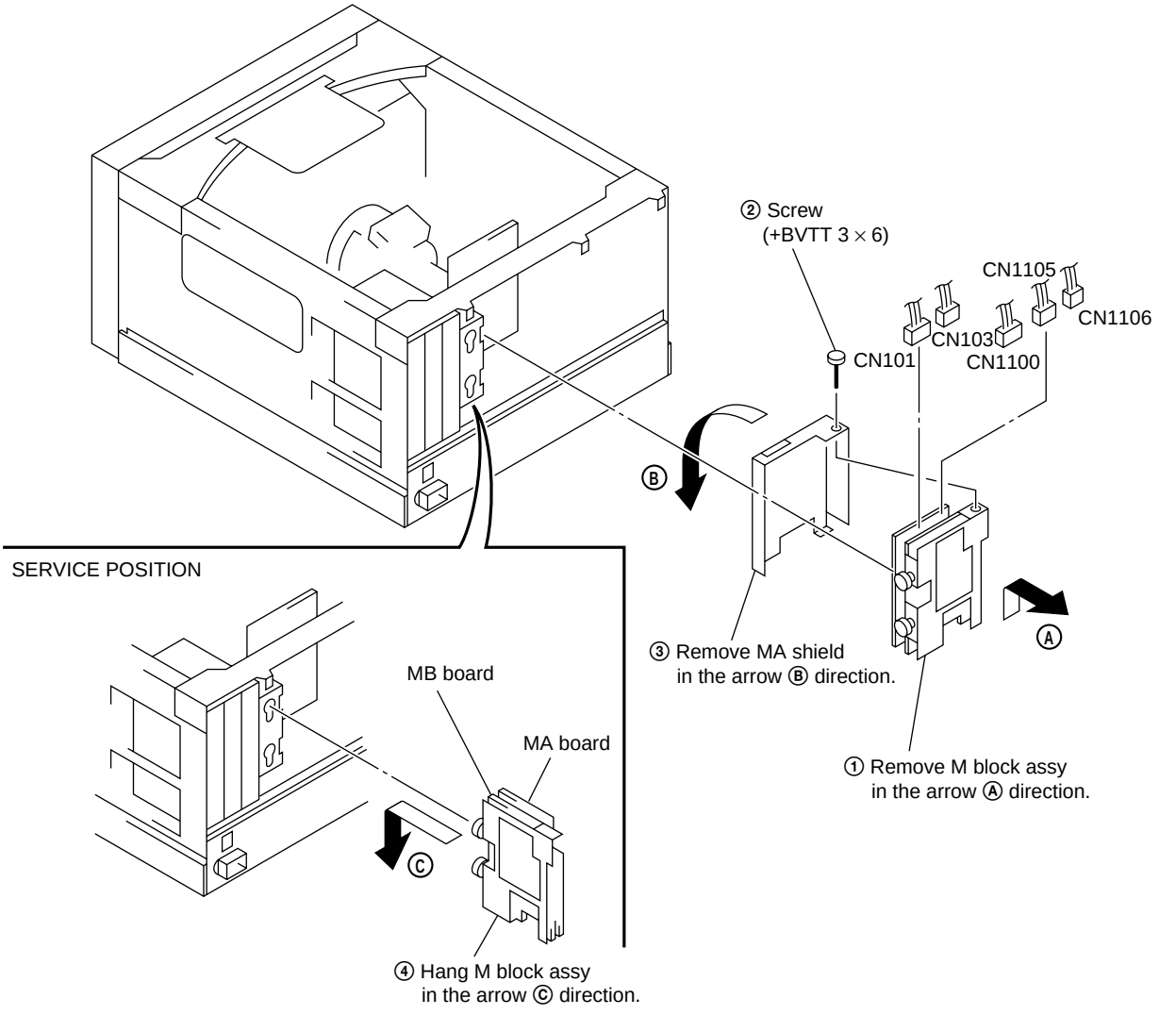
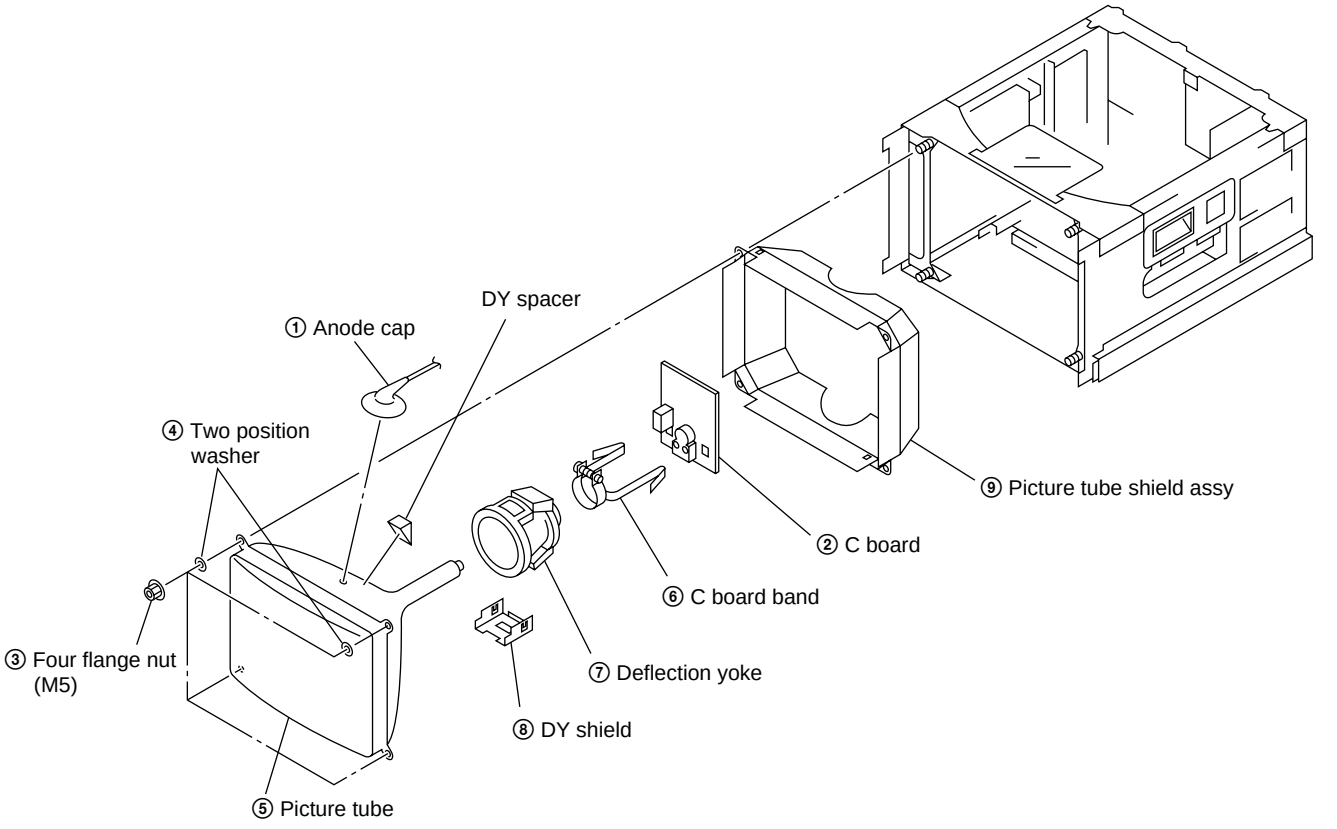
2-2-8. T Board Removal



2-2-9. M Block Assy (MA and MB Boards) Removal



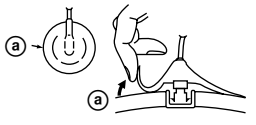
2-2-10. Picture Tube Removal



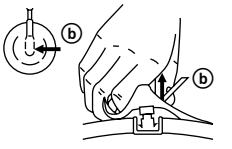
• REMOVAL OF ANODE CAP

Note: To eliminate electric shock hazard, when replacing the picture tube, short-circuit the anode of the picture tube and the high-voltage terminal of anode cap to the picture tube shield or carbon painted on the picture tube, after removing the anode.

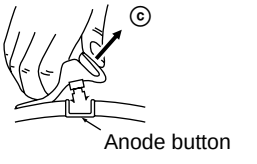
• Removal Procedure



(1) Turn up one side of the rubber cap in the direction indicated by arrow ⓐ.



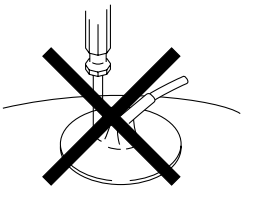
(2) Using a thumb, pull up the rubber cap firmly in the direction indicated by arrow ⓑ.

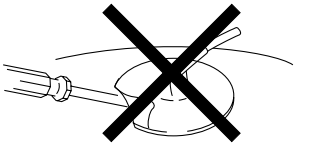


(3) When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ⓒ.

• Handling Precautions

(1) Do not scratch the surface of anode cap with a sharp object.
(2) Do not press the rubber so hard that it damages the inside of anode caps. A shatter-hook terminal is built into the rubber.
(3) Do not turn the foot of the rubber over.
The shatter-hook terminal will stick out or damage the rubber.





Section 3
Set-Up Adjustments

3-1. Set-Up Adjustment When CRT is Replaced

This section describes the adjustments to be performed when the CRT is replaced.

[Preparations]

• Required tools and measuring instruments

1. Signal generator
   YPB/YPR signal generator
   - •1080/60i (1125) : SMPTE 274M standard/ BTA S-001 standard
   - •1035/60i (1125) : BTA S-001 standard
   - •720/60p : SMPTE 296M standard
   - •480/60p (525P) : SMPTE 293M standard
   - •480/60i (525) : ITU601
   - •1080/48i (1125) : —
   - •1080/50i (1125) : SMPTE 274M standard
   - •720/50p : —
   - •575/50p (625P) : —
   - •575/50i (625) : ITU601

   NTSC analog composite signal generator
   HD SDI signal generator
   D1 SDI signal generator
2. BKM-127W (NTSC/PAL input adapter)
3. BKM-142HD (HD SDI input adapter)
4. BKM-120D (D1 SDI input adapter)
5. Oscilloscope
6. Luminance meter
7. Color analyzer (Minolta CA-100)
8. Cable of the following specifications to connect the RS-232C terminal of the CA-100 and the OPTION terminal of the monitor.

HDM option connector side
Mini DIN 8-pin

H SYNC	1
V SYNC	2
RTS	3
GND	4
NC	5
TXD	6
+5V	7
RXD	8

CA-100 RS-232C connector side
D Sub 25-pin (male)

1	FG
2	TXD
3	RXD
4	RTS
5	CTS
6	NC
7	GND
8	NC
9 – 19	NC
20	DTR
21 – 25	NC

• Setting the INPUT CONFIGURATION menu

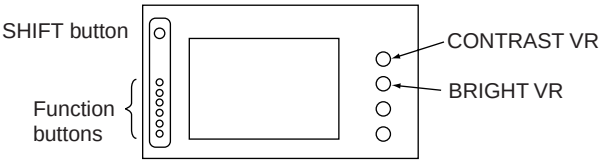
Set the INPUT CONFIGURATION menu of the SETUP menu as shown below unless otherwise specified.

FORMAT ..... YPBPR
SLOT NO 1
INPUT NO 1
SYNC MODE ..... INT
APEARTURE VALUE 100
CHANNEL NAME ..... PROG
COLOR TEMP ..... STD
H PHASE 000
MARKER PHASE 000
MARKER WIDTH 000

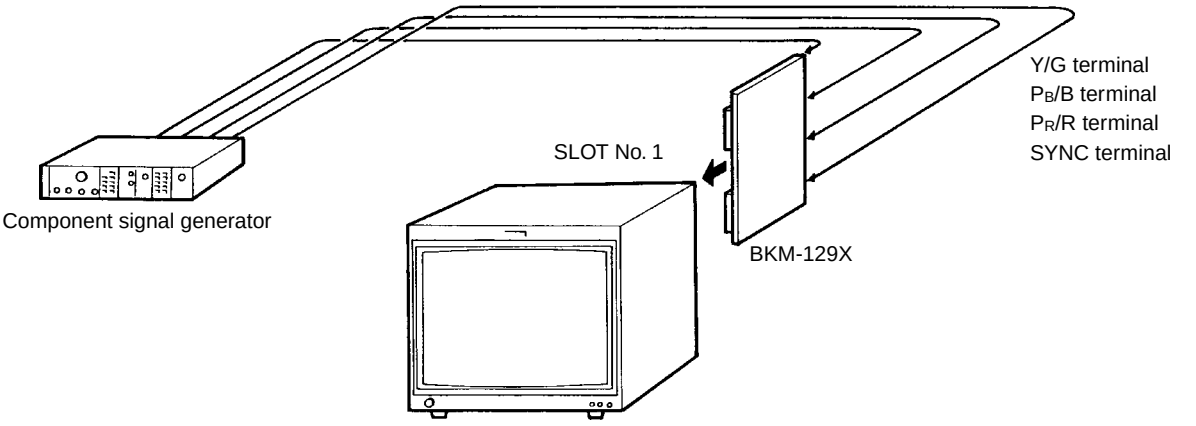
• Operate the SYSTEM CONFIG menu as follows.

Use the SYSTEM menu to select ALL SYSTEM with the RE-LOAD FACTORY DATA, and execute it.

BVM-D14H1/D14H5 control panel



- **Connection diagram**



BVM-D14H1U/D14H5U/D14H1E/D14H5E/D14H1A/D14H5A

[Focus Adjustment]

1. Connect the 1080/60i cross-hatch signal (see note) to the ANALOG Y/G input connector.
   Note: This is the 1125 (1080) cross-hatch signal.
2. Press the SHIFT button to set the SHIFT OFF. [The LED (orange) on top of the button turns off.] Press the UNDER SCAN button (▭) to its OFF position to select the normal mode. [The green LED turns on.]
3. Set the initial (default) value to the following DF adjustment data.
   FOCUS AMP : 27
   FOCUS KEY : 07
   Note: This menu is located in the directory under the DEFLECTION menu of the MAINTENANCE menu.
4. Adjust the FOUCS 1 control (horizontal focus adjustment) and the FOUCS 2 control (vertical focus adjustment) until the center of the screen has the optimum focus.
5. Connect the 1080/60i monoscope signal to the ANALOG Y/G input connector.
6. Check that the horizontal resolution higher than the specifications can be recognized.
   Specifications: 600 TV lines or more
7. Connect the 1080/60i cross-hatch signal to the ANALOG Y/G input connector.
8. Adjust the following DF adjustment data until the thickness of the cross-hatch lines at the corners of picture have the same thickness as those in the center of screen.
   FOCUS AMP
   FOCUS KEY
   Note: If the uniformity is extremely poor, compromise so that the FOCUS AMP is not adjusted to the best focus but is adjusted to obtain the reasonable uniformity and good focus at the same time.
9. Copy the adjustment data that is obtained in step 8 to the MODE2 to MODE4, MODE7 to MODE10, MODE15 to MODE18, MODE21 to MODE24, MODE29 to MODE32 in this order.
10. Connect the 480/60i cross-hatch signal (see note) to the ANALOG Y/G input connector.
    Note: NTSC cross-hatch signal
11. Adjust the following DF adjustment data until the thickness of the cross-hatch lines at the corners of picture have the same thickness as those in the center of screen.
    FOCUS AMP
    FOCUS KEY
    Note: If the uniformity is extremely poor, compromise so that the FOCUS AMP is not adjusted to the best focus but is adjusted to obtain the reasonable uniformity and good focus at the same time.
12. Copy the adjustment data that is obtained in step 11 to the MODE11, MODE12, MODE14 and MODE25 to MODE28 in this order.
13. Connect the 720/60p cross-hatch signal to the ANALOG Y/G input connector.
14. Adjust the following DF adjustment data until the thickness of the cross-hatch lines at the corners of picture have the same thickness as those in the center of screen.
    FOCUS AMP
    FOCUS KEY
    Note: If the uniformity is extremely poor, compromise so that the FOCUS AMP is not adjusted to the best focus but is adjusted to obtain the reasonable uniformity and good focus at the same time.
15. Copy the adjustment data that is obtained in step 14 to the MODE6, MODE19 and MODE20 in this order.

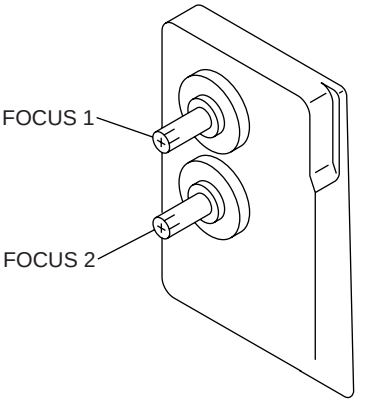


Fig. 1-1

(1) 60 Hz system

Mode	Signal format	Screen mode		Adjustment procedure
MODE1	1080/60i	16 : 9	NORMAL	Perform the adjustment of step 1 to step 8.
MODE2	(1125)		UNDER SCAN	Copy the MODE 1 data.
MODE3	1035/60i	16 : 9	NORMAL	
MODE4	(1125)		UNDER SCAN	
MODE5	720/60p	16 : 9	NORMAL	Perform the adjustment of step 10 to step 11.
MODE6			UNDER SCAN	Copy the MODE 5 data.
MODE7	480/60p	16 : 9	NORMAL	Copy the MODE 1 data.
MODE8	(525)		UNDER SCAN	
MODE9		4 : 3	NORMAL	
MODE10			UNDER SCAN	
MODE11	480/60i	16 : 9	NORMAL	Copy the MODE 13 data.
MODE12	(525)		UNDER SCAN	
MODE13		4 : 3	NORMAL	Perform the adjustment of step 10 to step 11.
MODE14			UNDER SCAN	Copy the MODE 13 data.

(2) 50 Hz system

Mode	Signal format	Screen mode		Adjustment procedure
MODE15	1080/48i	16 : 9	NORMAL	Copy the MODE 1 data.
MODE16	(1125)		UNDER SCAN	
MODE17	1080/50i	16 : 9	NORMAL	Copy the MODE 1 data.
MODE18	(1125)		UNDER SCAN	
MODE19	720/50p	16 : 9	NORMAL	Copy the MODE 5 data.
MODE20			UNDER SCAN	
MODE21	575/50P	16 : 9	NORMAL	Copy the MODE 1 data.
MODE22	(625)		UNDER SCAN	
MODE23		4 : 3	NORMAL	
MODE24			UNDER SCAN	
MODE25	575/50i	16 : 9	NORMAL	
MODE26	(625)		UNDER SCAN	
MODE27		4 : 3	NORMAL	Copy the MODE 13 data.
MODE28			UNDER SCAN	

[Landing Adjustment]

1. Connect the 480/60i entire-white signal (see note) to the ANALOG Y/G input connector.
   Note: This is the NTSC entire-white signal.
2. Press the SHIFT button to ON. [The LED (orange) on top of the button turns on.]
3. Press the 16:9 button to the OFF position to set the 4:3 mode. [The LED (orange) on top of the button turns off.]
4. Direct the CRT screen toward east (or west). Press the DEGAUSS button.
5. Set the Purity knob in the mechanical center.

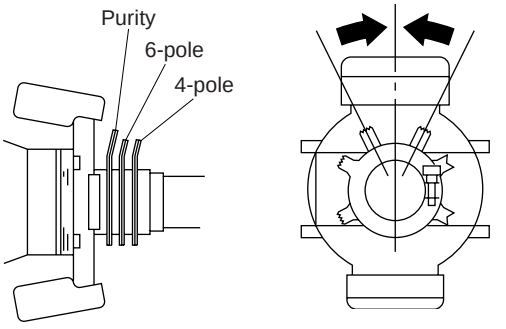


Fig. 1-2

6. Push the DY (deflection yoke) to the front as far as it can go.
7. Fix the neck assembly in the position as shown in Fig. 1-3.

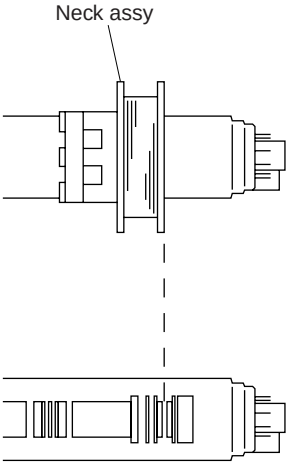


Fig. 1-3

8. Change the screen display to all green only as follows. [While the SFHIT is ON (the orange LED on the SHIFT button turns on), press the R and B button to ON. (The orange LED on the SHIFT button turns on.)]
9. Adjust the Purity knob until green comes to the center of the display as shown in Fig. 1-4.

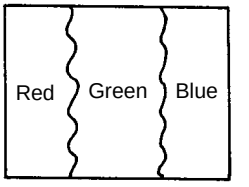


Fig. 1-4

10. Move back the DY so that the entire screen shows the green only.
11. Connect the 480/60i cross-hatch signal (see note) to the ANALOG Y/G input connector.
    Note: This is the NTSC cross-hatch signal.
12. Adjust the DY inclination. After DY inclination adjustment is complete, tighten the DY fixing screw.
13. Fix the deflection yoke (DY) using the three DY spacers.

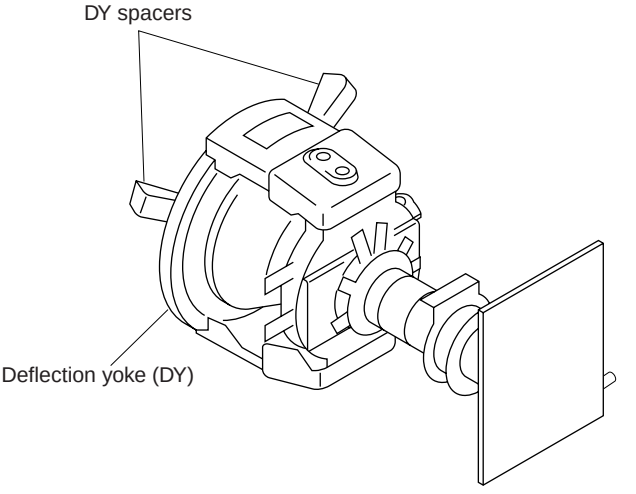


Fig. 1-5

- Final adjustment
  When the adjustment is complete, check that mis-landing (landing error) does not occur even when the monitor is directed in all directions of east, west, south and north.

[H Blanking Adjustment]

• Preparation

1. Connect the monoscope signal of the signal formats that are shown in the following table, to the ANALOG Y/G input connector. Perform the H blanking adjustment in the respective screen modes using the respective signal formats.

60 Hz system

Mode	Signal format	Screen mode	
MODE1	1080/60i	16 : 9	NORMAL
MODE2	(1125)		UNDER SCAN
MODE3	1035/60i	16 : 9	NORMAL
MODE4	(1125)		UNDER SCAN
MODE5	720/60p	16 : 9	NORMAL
MODE6			UNDER SCAN
MODE7	480/60p	16 : 9	NORMAL
MODE8	(525)		UNDER SCAN
MODE9		4 : 3	NORMAL
MODE10			UNDER SCAN
MODE11	480/60i	16 : 9	NORMAL
MODE12	(525)		UNDER SCAN
MODE13		4 : 3	NORMAL
MODE14			UNDER SCAN

50 Hz system

Mode	Signal format	Screen mode	
MODE15	1080/48i	16 : 9	NORMAL
MODE16	(1125)		UNDER SCAN
MODE17	1080/50i	16 : 9	NORMAL
MODE18	(1125)		UNDER SCAN
MODE19	720/50p	16 : 9	NORMAL
MODE20			UNDER SCAN
MODE21	575/50P	16 : 9	NORMAL
MODE22	(625)		UNDER SCAN
MODE23		4 : 3	NORMAL
MODE24			UNDER SCAN
MODE25	575/50i	16 : 9	NORMAL
MODE26	(625)		UNDER SCAN
MODE27		4 : 3	NORMAL
MODE28			UNDER SCAN

2. Increase the brightness by adjusting the BRIGHT control so that blanking becomes visible on screen.
   Note: The following adjustment menus are located in the directory under the DEFLECTION menu of the MAINTENANCE menu.
   H BLK LEFT H CENT
   H BLK RIGHT H PHASE
   H SIZE

• H. Blanking Adjustment

1. Press the SHIFT button to ON. [The LED (orange) on top of the button turns on.]
2. To select the 4:3 mode of the adjustment, press the 16:9 OFF button [to turn off the LED (orange)] to select the 4:3 mode.
   To select the 16:9 mode of the adjustment, press the 16:9 ON button [to turn on the LED (orange)] to select the 16:9 mode.
3. Press the SHIFT button to OFF. [The LED (orange) on top of the button turns off.]
4. To select the NORMAL mode of adjustment, press the UNDER SCAN button (▣) to its OFF position to select the normal mode. [The green LED turns off.]
   To select the UNDER SCAN mode of adjustment, press the UNDER SCAN button (▣) to its ON position to select the under scan mode. [The green LED turns on.]
5. Set the following adjustment data to adjustment points as shown below.
   H BLK LEFT : 255
   H BLK RIGHT : 0
6. Adjust the H SIZE data so that the entire raster area is visible on screen.
7. Adjust the H CENTER data so that the raster is position just in the center of the screen (so that A ≒ B). (Fig. 1-6)

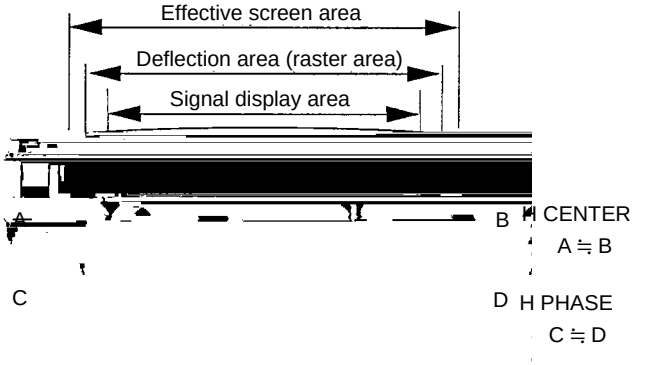


Fig. 1-6

http://getMANUAL.com

8. Adjust the H PHASE data so that the monoscope picture is positioned just in the center of the raster (so that C ≒ D).
9. Adjust the H BLK RIGHT data so that the horizontal blanking is positioned 0 to 2 mm outside the right end of the monoscope signal display area. (Fig. 1-7)
10. Adjust the H BLK LEFT data so that the horizontal blanking is position 0 to 2 mm outside the left end of the monoscope signal display area. (Fig. 1-7)
11. Return the H SIZE data to the original data size.

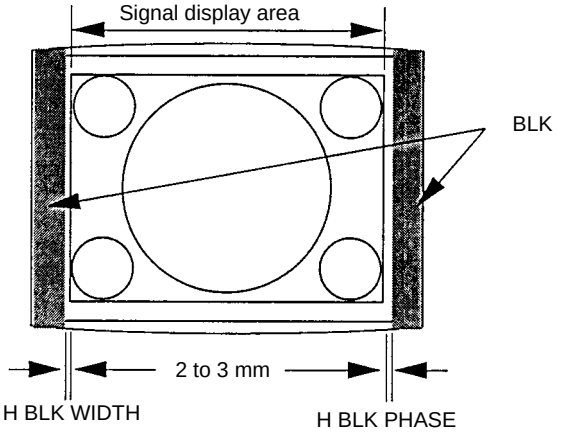


Fig. 1-7

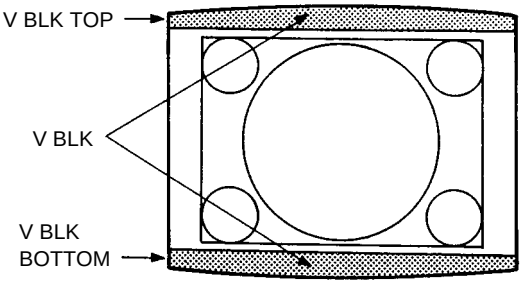


Fig. 1-8

[V Blanking Adjustment]

• Preparation

1. Connect the monoscope signal of the signal formats that are shown in the following table, to the ANALOG Y/G input connector. Perform the V blanking adjustment in the respective screen modes using the respective signal formats.

60 Hz system

Mode	Signal format	Screen mode	
MODE9	480/60p (525)	4 : 3	NORMAL
MODE13	480/60i (525)	4 : 3	NORMAL

50 Hz system

Mode	Signal format	Screen mode	
MODE23	575/50p (625)	4 : 3	NORMAL
MODE27	575/50i (625)	4 : 3	NORMAL

2. Increase the brightness by adjusting the BRIGHT control so that blanking becomes visible on screen.
   Note: The following adjustment menus are located in the directory under the DEFLECTION menu of the MAINTENANCE menu.
   V BLK TOP
   V BLK BOTTOM
   V SIZE
   V CENT

• V Blanking Adjustment

1. Press the SHIFT button to ON. [The LED (orange) on top of the button turns on.]
2. Press the 16:9 OFF button [to turn off the LED (orange)] to select the 4:3 mode.
3. Press the SHIFT button to OFF. [The LED (orange) on top of the button turns off.]
4. Press the UNDER SCAN button (▭) to its ON position to select the under scan mode. [The green LED turns on.]
5. Adjust the V SIZE data so that the 5% over-scan is obtained.
6. Take note of the present V CENT data. After noting present V CENT data, adjust V CENT so that the top of the raster becomes visible.
7. Adjust the V BLK TOP data so that the vertical blanking on top of the screen is positioned as closest as possible to the signal display area.
8. Adjust V CENT so that the bottom of the raster becomes visible.
9. Adjust the V BLK BOTTOM data so that the vertical blanking on bottom of the screen is positioned as closest as possible to the signal display area.
10. Return the V CENT data to the original data.

[Linearity Adjustment]

• Linearity Adjustment (1)

1. Connect the 1080/60i (1125) cross-hatch signal to the ANALOG Y/G input connector.
2. Press the SHIFT button to ON. [The LED (orange) on top of the button turns on.]
3. Press the 16:9 ON button [to turn on the LED (orange)] to select the 16:9 mode.
4. Press the SHIFT button to OFF. [The LED (orange) on top of the button turns off.]
5. Press the UNDER SCAN button (▣) to its OFF position to select the normal mode. [The green LED turns off.]
6. Check that the picture is not slanted, that there are no top and bottom PIN distortion and horizontal trapezoidal distortion.

   Slanted picture:

   Adjust inclination of the DY.

   Horizontal PIN distortion:

   Adjust upper and lower neck twist of the DY.

   Horizontal trapezoidal distortion:

   Adjust TLV adjustment control of the DY. (Be careful that the TLV adjustment can deteriorate the convergence.)

• Linearity Adjustment (2)

Note 1) Connect the monoscope signal or the cross-hatch signal having the following signal formats as shown in the table below, to the ANALOG Y/G input connector. Perform the linearity adjustment (2) in the respective screen modes using the respective signal formats.

60 Hz system

MODE	Signal format	Screen mode	
MODE1	1080/60i	16 : 9	NORMAL
MODE2	(1125)		UNDER SCAN
MODE3	1035/60i	16 : 9	NORMAL
MODE4	(1125)		UNDER SCAN
MODE5	720/60p	16 : 9	NORMAL
MODE6			UNDER SCAN
MODE7	480/60p	16 : 9	NORMAL
MODE8	(525)		UNDER SCAN
MODE9		4 : 3	NORMAL
MODE10			UNDER SCAN
MODE11	480/60i	16 : 9	NORMAL
MODE12	(525)		UNDER SCAN
MODE13		4 : 3	NORMAL
MODE14			UNDER SCAN

50 Hz system

MODE	Signal format	Screen mode	
MODE15	1080/48i	16 : 9	NORMAL
MODE16	(1125)		UNDER SCAN
MODE17	1080/50i	16 : 9	NORMAL
MODE18	(1125)		UNDER SCAN
MODE19	720/50p	16 : 9	NORMAL
MODE20			UNDER SCAN
MODE21	575/50P	16 : 9	NORMAL
MODE22	(625)		UNDER SCAN
MODE23		4 : 3	NORMAL
MODE24			UNDER SCAN
MODE25	575/50i	16 : 9	NORMAL
MODE26	(625)		UNDER SCAN
MODE27		4 : 3	NORMAL
MODE28			UNDER SCAN

Note 2) The following adjustment menus are located in the directory under the DEFLECTION menu of the MAINTENANCE menu.
H SIZE
H CENTER
H KEY BAL
H KEY
H PIN BAL
H PIN
H COR S
H COR PIN
H PIN
V SIZE
V CENTER
V LIN AMP
V LIN BAL

1. Connect the monoscope signal to the ANALOG Y/G input connector.
2. Press the SHIFT button to ON. [The LED (orange) on top of the button turns on.]
3. To adjust the 4:3 mode of adjustment, press the 16:9 OFF button [to turn off the LED (orange)] to select the 4:3 mode.
4. Press the SHIFT button to OFF. [The LED (orange) on top of the button turns off.]
5. To select the NORMAL mode of adjustment, press the UNDER SCAN button (▣) to its OFF position to select the normal mode. [The green LED turns off.]
   To select the UNDER SCAN mode of adjustment, press the UNDER SCAN button (▣) to its ON position to select the under scan mode. [The green LED turns on.]
6. Adjust the H CENTER data so that the horizontal center of the picture comes to the horizontal center of the screen.
7. Adjust the V CENTER data so that the vertical center of the picture comes to the vertical center of the screen.
8. Connect the cross-hatch signal to the ANALOG Y/G input connector.
9. Adjust the respective V SIZE, V LIN BAL, V LIN AMP and H SIZE data so that the optimum picture is obtained as shown in Fig. 1-9.
   Note: Do not adjust the V SIZE data when adjusting the MODEs 9, 13, 23 and 27.
10. Adjust the horizontal trapezoidal distortion and horizontal PIN distortion on both sides of picture using the H KEY BAL, H KEY, H PIN BAL and H PIN data respectively as shown in Fig. 1-10.
11. Adjust the corner "S" distortion and the corner PIN distortion on both sides of picture using the H CORS and H COR PIN data respectively as shown in Fig. 1-11.
12. Repeat the above-described steps of the linearity adjustment(2) until the optimum horizontal linearity and vertical linearity are obtained.

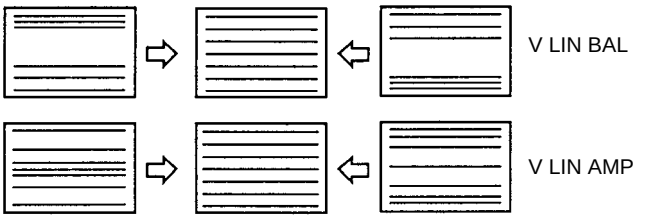


Fig. 1-9

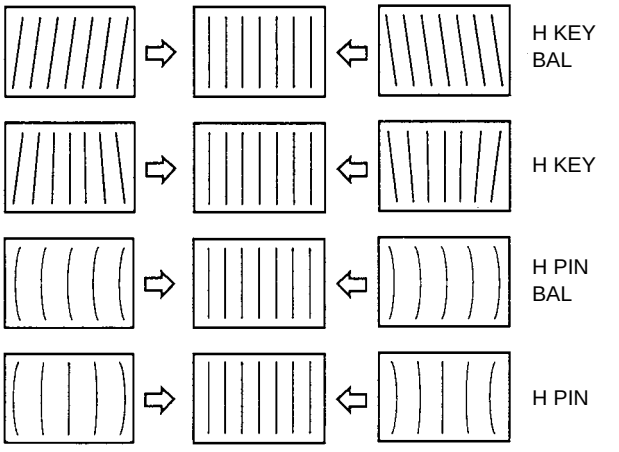


Fig. 1-10

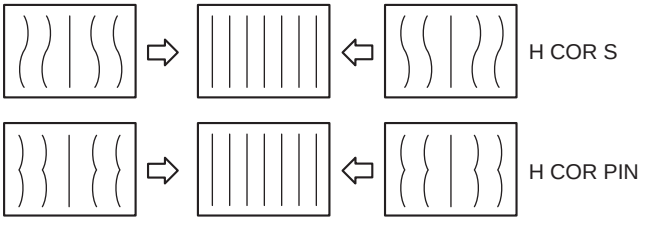


Fig. 1-11

[Convergence Adjustment]

• Preparation

1. Connect the 480/60p cross-hatch signal to the ANALOG Y/G input connector.
2. Press the SHIFT button to ON. [The LED (orange) on top of the button turns on.]
3. Press the 16:9 OFF button [to turn off the LED (orange)] to select the 4:3 mode.
4. Press the SHIFT button to set the SHIFT OFF. [The LED (orange) on top of the button turns off.]
5. Press the UNDER SCAN button (▭) to its OFF position to select the NORMAL mode of adjustment. [The green LED turns off.]

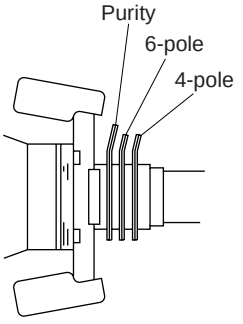


Fig. 1-12

[Static Convergence Adjustment]

• Horizontal Static Convergence Adjustment

1. Adjust RV701 (H. STAT) on the C board so that the red dots and the green dots are correctly converged.
2. When the blue dot is mis-converged with respect to the red and green dots, implement the HMC (horizontal misconvergence) correction by adjusting the 4-pole magnet and the 6-pole magnet of the DY.

• Vertical Static Convergence Adjustment

1. Implement the VMC (vertical misconvergence) correction by adjusting the 4-pole magnet and the 6-pole magnet of the DY.

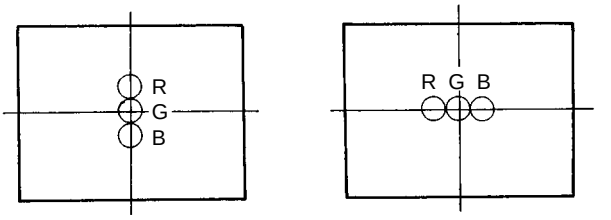


Fig. 1-13

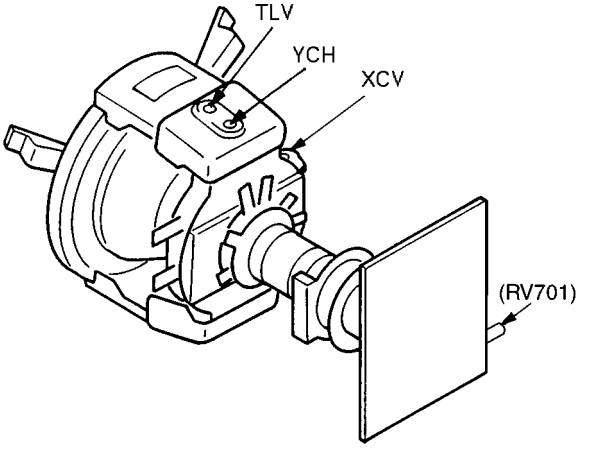


Fig. 1-14

[Dynamic Convergence Adjustment]

1. Minimize the vertical misconvergence in the left-most end of the center of a screen and in the right-most end of the center of a screen by adjusting the DY correction reactor XCV as shown in Fig. 1-15.
2. Minimize the vertical misconvergence in the top of a screen and in the bottom of a screen by adjusting the DY correction reactor YCH as shown in Fig. 1-15.
3. Minimize the vertical misconvergence in the top of a screen and in the bottom of a screen by adjusting the DY correction reactor TLV as shown in Fig. 1-15.
4. Minimize the vertical misconvergence in the left-most end of the center of a screen and in the right-most end of the center of a screen by adjusting the DY correction reactor TLH as shown in Fig. 1-15.

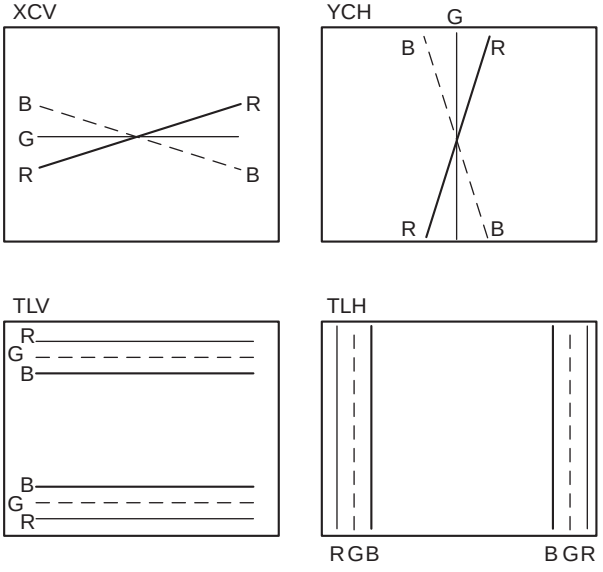


Fig. 1-15

[G2 Adjustment]

1. Connect the 480/60i entire black signal to the ANALOG Y/G input connector.
2. Connect an oscilloscope probe one after another to the C board R-cathode (TP701), G-cathode (TP702) then B-cathode (TP703) to measure the DC voltage at their respective pedestal portion.
3. Connect an oscilloscope to the cathode whose DC voltage of the respective pedestal portion has the highest DC voltage.
4. Adjust RV702 on the C board so that the DC voltage of the respective pedestal portion is 125 ±3 V.

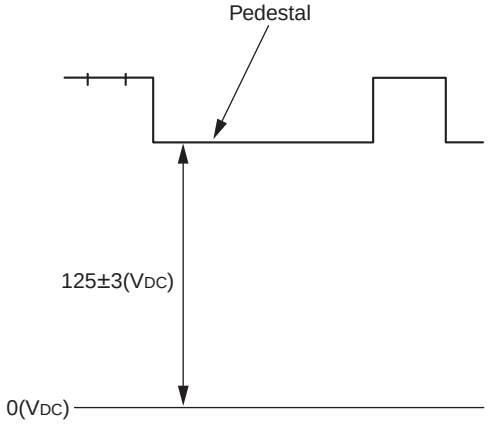


Fig. 1-16

[White Balance Adjustment]

1. Outline of the white balance adjustment and calibration of the color analyzer that is used for the white balance adjustment are described first.

1,1 The parameter that converts the RGB drive voltage of a CRT to the chromaticity coordinate is acquired.

This monitor has the copy function of the color temperature data between two or more monitors.
However, the CRT drive voltage are unique in every monitor because it is different depending on each CRT. Therefore, the same color temperature cannot be obtained in multiple monitors even though the same drive voltage is given to them. It means that the data that is used to copy the color temperature, must be the xyY chromaticity coordinate or similar data that does not depend on each CRT, unlike the CRT drive that depends on each CRT.
When the D93 MANUAL adjustment is implemented using the MAINTENANCE/SYSTEM/COLOR TEMP menu of the SYSTEM CONFIG menu, the parameter that converts the CRT drive voltage to the chromaticity coordinate is created while the adjustment is implemented. This parameter is used when copying the color temperature data to other monitors as shown.

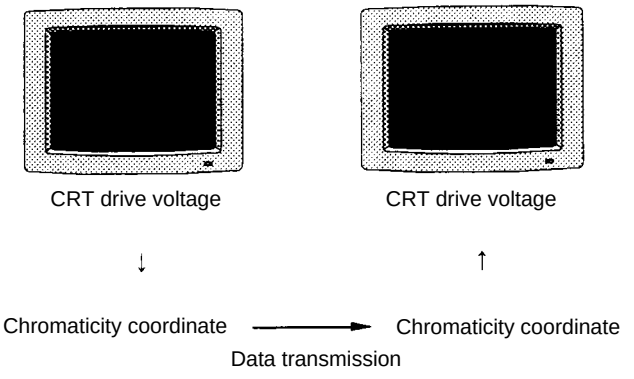


Fig. 1-17

1.2 D65 color temperature adjustment

1.3 Copying the color temperature data to the STD color temperature, COLOR1 color temperature and COLOR2 color temperature.

- On calibration of the color analyzer
  When color temperature of any monitor is measured by two or more color analyzers, these color analyzers show different measurement values even though the object of measurement is the same. Also the measurement value of color analyzer changes as time elapses.
  Therefore, any color analyzer must be calibrated so that it shows the correct measurement value of the following chromaticity coordinate before using the analyzer.

	x	y	y (cd/m^2)
D65	0.313	0.329	2.7
	0.313	0.329	120
D93	0.283	0.297	2.7
	0.283	0.297	120

2. Preparation for Adjustment

2.1 Connect the 480/60i (525) WINDOW signal to the ANALOG Y/G input connector.

2.2 Connect the RS-232C connector of a color analyzer CA-100 with the OPTION connector of a monitor using the cable that is shown by section “3-1. Set-Up Adjustment When CRT is Replaced - Required tools and measuring instruments, item 8”.

2.3 Set up the CA-100 as described below. Attach the measurement probe of the CA-100 to the center of the CRT screen.

Display mode	xyY mode
Baud rate	9600

3. White Balance Adjustment

3.1 White Balance Adjustment (1)

1. Press the SHIFT ON button [to turn on the LED (orange) on top of the SHIFT button]. Press the 16:9 ON button [to turn on the LED (orange)] to select the 16:9 mode.
2. Press the MONO ON button to select the B/W mode. [The green LED turns on.]
3. Select MAINTENANCE menu of the SYSTEM CONFIG menu.
4. Select VIDEO menu of the MAINTENANCE menu.
5. Take note of the SUB CONTRAST data. Then set 100 to the SUB CONTRAST data.
6. Select SYSTEM/COLOR TEMP menu of the MAINTENANCE menu.
7. Select D93 of the SYSTEM/COLOR TEMP menu. Then cover the entire CRT screen surface with a black blind cloth. Select the MANUAL adjustment item and adjust the white balance until the following value is obtained.
   x = 0.283
   y = 0.297
8. Select D65 of the SYSTEM/COLOR TEMP menu. Then cover the entire CRT screen surface with a thick black blind cloth. Select the MANUAL adjustment item and adjust the white balance until the following value is obtained.
   x = 0.313
   y = 0.329
9. Select the SYSTEM/COLOR TEMP/COPY/OTHER VALUE menu.
10. After selecting the STD item of the COLOR TEMP menu, select D93. Copy the D93 color temperature data to STD.
11. After selecting the COLOR1 item of the COLOR TEMP menu, select D65. Copy the D65 color temperature data to COLOR1.
12. After selecting the COLOR2 item of the COLOR TEMP menu, select D93. Copy the D93 color temperature data to COLOR2.
13. Select VIDEO menu of the MAINTENANCE menu.
14. Return the SUB CONTRAST data to the original data.
15. Press the MONO button to the OFF position to cancel the B/W mode. [The green LED turns off.]

3.2 Sub Contrast Adjustment

1. Connect the 480/60i (525) 100 IRE WINDOW signal to the ANALOG Y/G input connector.
2. Attach the luminance meter to the center of the CRT screen.
3. Select STD using the COLOR TEMP menu of the INPUT CONFIG menu.
4. Select MAINTENANCE menu of the SYSTEM CONFIG menu.
5. Select SUB CONTRAST menu of the VIDEO menu.
6. Press the SHIFT ON button [to turn on the LED (orange) on top of the SHIFT button]. Press the 16:9 OFF button [to turn off the LED (orange)] to select the 4:3 mode.
7. Press the SHIFT OFF button [to turn off the LED (orange) on top of the SHIFT button].
   Press the UNDER SCAN button (▣) to its ON position to select the under scan mode. [The green LED turns off.]
8. Adjust SUB CONTRAST so that luminance becomes 120 cd/m^2.
9. Press the SHIFT ON button [to turn on the LED (orange) on top of the SHIFT button]. Press the 16:9 ON button [to turn on the LED (orange)] to select the 16:9 mode.
10. Adjust SUB CONTRAST so that luminance becomes 120 cd/m^2.
11. Press the SHIFT OFF button [to turn off the LED (orange) on top of the SHIFT button].
    Press the UNDER SCAN button (▣) to its ON position to select the under scan mode. [The green LED turns off.]
12. Adjust SUB CONTRAST so that luminance becomes 120 cd/m^2.
13. Press the UNDER SCAN button (▣) to its ON position to select the under scan mode. [The green LED turns off.]
14. Press the SHIFT ON button [to turn on the LED (orange) on top of the SHIFT button]. Press the 16:9 OFF button [to turn off the LED (orange)] to select the 4:3 mode.
15. Connect the 1080/60i 100 IRE WINDOW signal to the ANALOG Y/G input connector.
16. Adjust SUB CONTRAST so that luminance becomes 120 cd/m^2.
17. Press the SHIFT OFF button [to turn off the LED (orange) on top of the SHIFT button].
    Press the UNDER SCAN button (▣) to its ON position to select the under scan mode. [The green LED turns off.]
18. Adjust SUB CONTRAST so that luminance becomes 120 cd/m^2.
19. Press the UNDER SCAN button (▣) to its OFF position to select the normal mode. [The green LED turns on.]
20. Connect the 480/60p (525P) 100 IRE WINDOW signal to the ANALOG Y/G input connector.
21. Press the SHIFT ON button [to turn on the LED (orange) on top of the SHIFT button]. Press the 16:9 OFF button [to turn off the LED (orange)] to select the 4:3 mode.
22. Press the SHIFT OFF button [to turn off the LED (orange) on top of the SHIFT button].
    Press the UNDER SCAN button (▣) to its OFF position to select the normal mode. [The green LED turns on.]
23. Adjust SUB CONTRAST so that luminance becomes 120 cd/m^2.
24. Press the UNDER SCAN button (▣) to its OFF position to select the normal mode. [The green LED turns on.]
25. Adjust SUB CONTRAST so that luminance becomes 120 cd/m^2.
26. Press the UNDER SCAN button (▣) to its OFF position to select the normal mode. [The green LED turns on.]

3.3 White Balance Adjustment (2)

1. Connect the 480/60i (525) 20 IRE WINDOW color difference signal to the ANALOG Y/G input connector.
2. Select STD using the COLOR TEMP menu of the INPUT CONFIG menu.
3. Select MAINTENANCE menu of the SYSTEM CONFIG menu.
4. Select the VIDEO menu.
5. Increase the CHROMA control to its maximum.
6. Adjust white balance by adjusting the PR/R BLACK and PB/B BLACK menus of the VIDEO menu.
   x = 0.283
   y = 0.297

3.4 White Balance Adjustment (3)

1. Connect the 1080/60i (1125) 20 IRE WINDOW color difference signal to the ANALOG Y/G input connector.
2. Select STD using the COLOR TEMP menu of the INPUT CONFIG menu.
3. Select MAINTENANCE menu of the SYSTEM CONFIG menu.
4. Select the VIDEO menu.
5. Increase the CHROMA control to its maximum.
6. Adjust white balance by adjusting the PR/R BLACK and PB/B BLACK menus of the VIDEO menu.
   x = 0.283
   y = 0.297

3.5 White Balance Adjustment (4)

1. Turn off the main POWER switch.
2. Insert the BKM-142HD into the SLOT 2.
3. Connect the HD-SDI 20 IRE WINDOW signal to the BKM-142HD.
4. Turn on the main POWER switch.
5. Select HD-SDI using the FORMAT menu of the INPUT CONFIG menu.
6. Select MAINTENANCE menu of the SYSTEM CONFIG menu.
7. Select the VIDEO menu.
8. Increase the CHROMA control to its maximum.
9. Adjust white balance by adjusting the PR/R BLACK and PB/B BLACK menus of the VIDEO menu.
   x = 0.283
   y = 0.297

3.6 White Balance Adjustment (5)

1. Turn off the main POWER switch.
2. Insert the BKM-120D into the SLOT 2.
3. Connect the D1-SDI 20 IRE WINDOW signal to the BKM-120D.
4. Turn on the main POWER switch.
5. Select D1-SDI using the FORMAT menu of the INPUT CONFIG menu.
6. Select MAINTENANCE menu of the SYSTEM CONFIG menu.
7. Select the VIDEO menu.
8. Increase the CHROMA control to its maximum.
9. Adjust white balance by adjusting the PR/R BLACK and PB/B BLACK menus of the VIDEO menu.
   x = 0.283
   y = 0.297

3.7 White Balance Adjustment (6)

1. Turn off the main POWER switch.
2. Insert the BKM-127W into the SLOT 2.
3. Connect the NTSC 20 IRE WINDOW signal to the BKM-127W.
4. Turn on the main POWER switch.
5. Select NTSC, PAL using the FORMAT menu of the INPUT CONFIG menu.
6. Select MAINTENANCE menu of the SYSTEM CONFIG menu.
7. Select the VIDEO menu.
8. Increase the CHROMA control to its maximum.
9. Adjust white balance by adjusting the PR/R BLACK and PB/B BLACK menus of the VIDEO menu.
   x = 0.283
   y = 0.297

Section 4
Safety Related Adjustments

This section describes the adjustment procedure that is required when the safety related parts are replaced.

[Preparation]

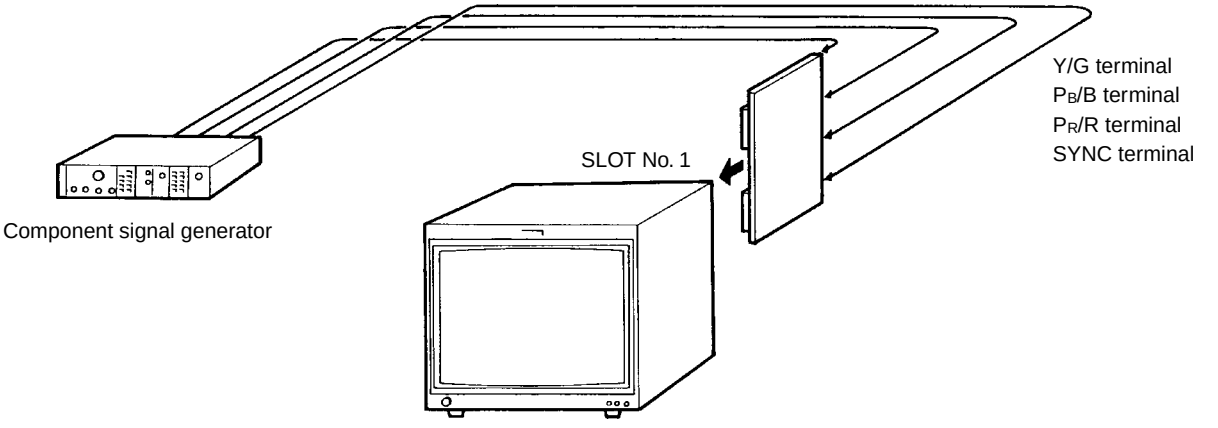
• Required tools and measuring equipment

1. Signal generator
   YPB/YPR signal generator
   • 1080/60i (1125) : SMPTE 274M standard
   • 480/60i (525) : ITU601 (Refer to page 1-29)
2. Electrostatic voltmeter: Singer ESH-27X or ESH-23X or equivalent
3. Digital voltmeter
4. 200 kΩ variable resistor
5. 20 kΩ variable resistor
6. Ammeter

• Set the INPUT CONFIGURATION menu

Set the INPUT CONFIGURATION menu of the SETUP menu as shown below unless otherwise specified.

FORMAT ..... YPBPR
SLOT NO 1
INPUT NO 1
SYNC MODE ..... INT
APEARTURE VALUE 100
CHANNEL NAME ..... PROG
COLOR TEMP ..... STD
H PHASE 000
MARKER PHASE 000
MARKER WIDTH 000



BVM-D14H1U/D14H5U/D14H1E/D14H5E/D14H1A/D14H5A

+B (135 V) Voltage Check

1. Connect a digital voltmeter across C645 on the G board.
2. Turn on the main power.
3. Connect the 1080/60i 100 IRE signal (see note) to input connector.
   Note: 1125 (1080) 100 IRE signal
4. Push the BRIGHTNESS and CONTRAST buttons to their MANUAL positions (to turn the green LEDs on the buttons.)
5. Set the BRIGHTNESS and CONTRAST buttons to their MAX positions.
6. Check that the following DC voltage appears.
   135.0 ± 0.8 V
7. Turn off the main power.
8. Disconnect the digital voltmeter.

High Voltage Regulator Check

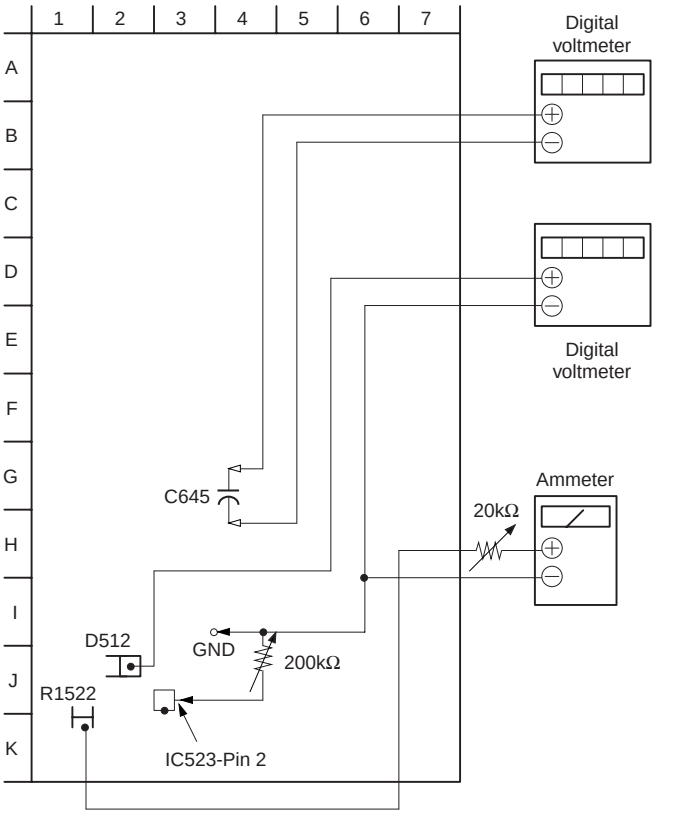
When the following parts (the parts to which the ◪ mark is attached on the schematic diagram) are replaced, be sure to perform the following checks.

◪ G board IC515, IC519, IC520, T502, R1509, R1514, R1576, R1577, R592, R593, R599

1. Turn off the main power.
2. Connect an electrostatic voltmeter to the anode cap of CRT tube.
   - Electrostatic voltmeter: It must have already been calibrated to have the input impedance of 2×10^9 Ω or more. Singer ESH-27X or ESH-23X or equivalent
3. Turn on the main power.
4. Connect the 1080/60i monoscope signal (see note) to input connector.
   Note: 1125 (1080) monoscope signal
5. Push the BRIGHTNESS and CONTRAST buttons to their MANUAL positions (to turn the green LEDs on the buttons.)
6. Set the BRIGHTNESS and CONTRAST buttons to their mechanical center positions.
7. Check that the following high voltage appears.
   22.5 ± 1.0 kV
8. Turn off the main power.
9. Disconnect the electrostatic voltmeter.

[Connection]

G board (Side B)



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High Voltage Hold-Down Check

When the following parts (the parts to which the ◪ mark is attached on the schematic diagram) are replaced, be sure to perform the following checks.

◪ G board IC514, IC507, IC523, Q520, D506, D513, D535, T502, R553, R560, R561, R569, R575, R597, R1566, R512

1. Turn off the main power.
2. Connect a digital voltmeter between D513 cathode and GND of G board.
3. Connect a 200 kΩ variable resistor between IC523 pin-2 and GND of the G board.
   [Adjust the 200 kΩ variable resistor to its maximum resistance value.]
5. Connect the 480/60i entire black signal (see note) to input connector.
   Note: NTSC entire black signal
6. Push the BRIGHTNESS and CONTRAST buttons to their MANUAL positions (to turn the green LEDs on the buttons.)
7. Set the BRIGHTNESS and CONTRAST buttons to their MIN positions.
8. Confirm that the raster disappears from the CRT screen when the DC voltage at D513 cathode reaches the following voltage as the 200 kΩ variable resistor is turned to decrease its resistance value gradually.
   25.5 ± 1.0 V
9. Turn off the main power.
10. Remove the 200 kΩ variable resistor that is connected to IC523 pin-2.
11. Turn on the main power.
12. Confirm that the DC voltage at D513 cathode is as follows.
    20.0 ± 1.5 V
13. Connect the 480/60i entire white signal to input connector.
14. Set the BRIGHTNESS and CONTRAST buttons to their MAXIMUM positions.
15. Confirm that the DC voltage at TP505 is as follows.
    22.0 ± 2.0 V
16. Disconnect the digital voltmeter.

Beam Current Protector Check

When the following parts (the parts to which the ◪ mark is attached on the schematic diagram) are replaced, be sure to perform the following checks.

◪ G board IC507, IC517, IC523, Q520, D507, D535, T502, R1516, R1517, R1518, R1521, R1522, R1523, R1566, R1569, R512, R562, R576, R578, R579, R580, R586

1. Turn off the main power.
2. Connect a DC ammeter and a 20 kΩ variable resistor in series between the junction point of R1522 and R1523, and GND on the G board
   [The junction point of R1522 and R1523 is the positive (+) side. Adjust the 20 kΩ variable resistor to its maximum resistance beforehand.]
3. Turn on the main power.
4. Connect the 480/60i entire black signal (see note) to input connector.
   Note: NTSC entire black signal
5. Push the BRIGHTNESS and CONTRAST buttons to their MANUAL positions (to turn the green LEDs on the buttons.)
6. Set the BRIGHTNESS and CONTRAST buttons to their mechanical center positions.
7. Confirm that the raster disappears from the CRT screen when the DC ammeter reaches the following value as the 20 kΩ variable resistor is turned to decrease its resistance value gradually.
   1600 µA
8. Turn off the main power.
9. Remove a 20 kΩ variable resistor and a DC ammeter.

Section 5
Circuit Adjustments

5-1. B Board Adjustments

This section describes the following adjustments that are required when the parts are replaced or maintenance is performed in the B board.

1. RGB signal adjustment
2. 15k YPBPR SMPTE (709) signal adjustment
3. 15k YPBPR SMPTE (601) signal adjustment
4. 15k YPBPR BETACAM SETUP 0 (601) signal adjustment
5. 15k YPBPR BETACAM SETUP 7.5 (601) signal adjustment
6. 33k YPBPR SMPTE (709) Signal Adjustment

Control Settings

- Set the INPUT CONFIGURATION menu of the SETUP menu as shown below.
  FRMAT ..... YPBPR
  SLOT NOT 1
  INPUT NOT 1

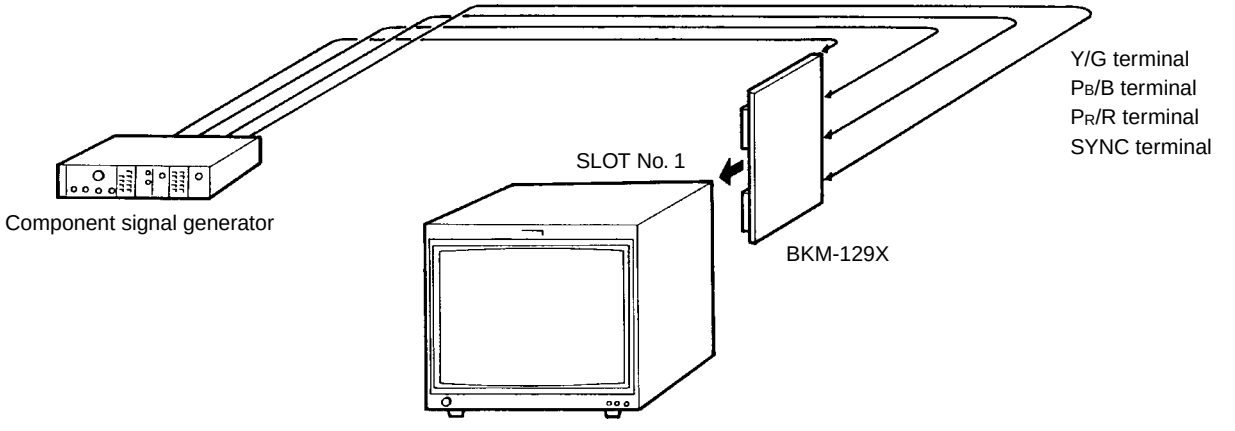
- Set “128” to the CHROMA data using the CHROMA control knob.

- Perform the following operaion using the SYSTEM CONFIG menu.
  Select the B BOARD using the RE-LOAD FACTORY DATA of the SYSTEM menu.

Equipment Required

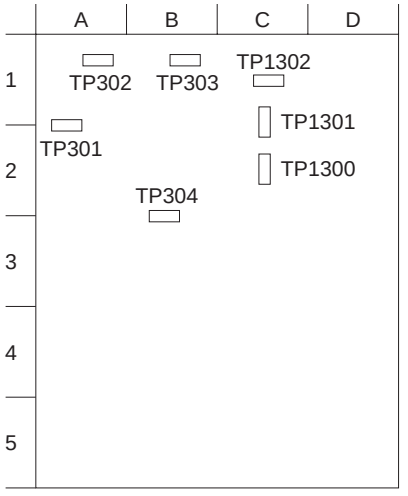
Name	Main Specifications	Model Name
Signal generator	15 kHz/60 Hz RGB	VG-854 or equivalent
	15 kHz/60 Hz YPBPR SMPTE (709)	
	15 kHz/60 Hz YPBPR SMPTE (601)	
	15 kHz/60 Hz YPBPR BETACAM SETUP 7.5 (601)	
	33 kHz/60 Hz YPBPR SMPTE (709)	
Oscilloscope	Frequency: DC to 150 MHz or more	TEKTORONIX 2445A
	Dual trace	or equivalent

Connection (1)



BVM-D14H1U/D14H5U/D114H1E/D14H5E/D14H1A/D14H5A

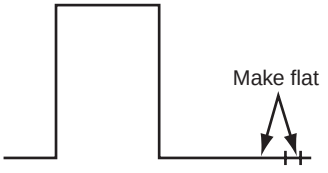
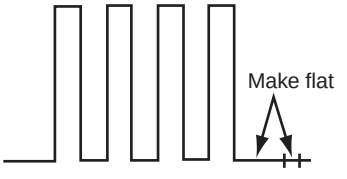
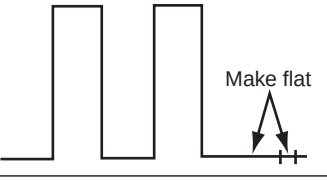
Connection (2)



B board -side A-

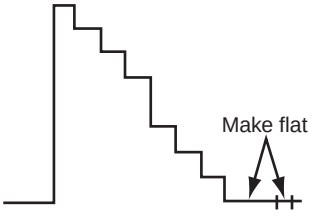
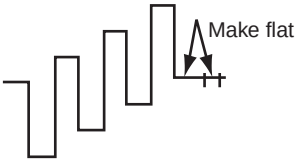
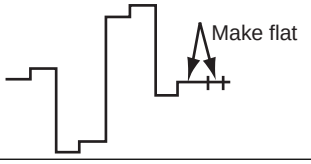
Adjustment Procedure

1. RGB Signal Adjustment

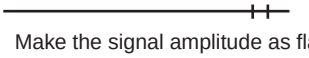
Status During Adjustment	Specifications	Adjustment Point
Step 1 • Input the 15 kHz/60 Hz RGB 100% color bar signal. • Use the FORMAT item of the INPUT CONFIG menu to select RGB. • Connect an oscilloscope to TP302.	Adjust the GREEN waveforms to have the same amplitude at TP302. Level difference: 0 ±10 mV 	Use the adjustment menu Y/G BLACK (40H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 2 • Connect an oscilloscope to TP303.	Make flat the pedestal portion of the BLUE waveform at TP303. Level difference: 0 ±10 mV 	Use the adjustment menu PB/B BLACK (30H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 3 • Connect an oscilloscope to TP304.	Make flat the pedestal portion of the RED waveform at TP304. Level difference: 0 ±10 mV 	Use the adjustment menu PR/R BLACK (20H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.

2. 15k YPBPR SMPTE (709) Signal Adjustment

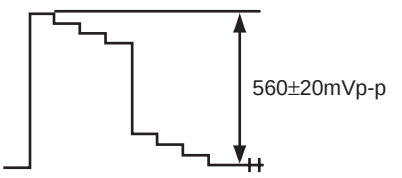
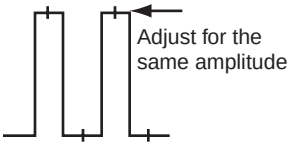
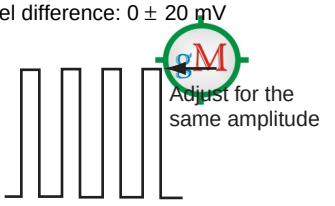
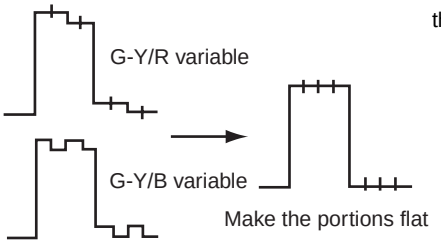
2-1. BLACK Level Adjustment

Status During Adjustment	Specifications	Adjustment Point
Step 1 • Input the 15 kHz/60 Hz YPBPR SMPTE (709) 100% color bar signal. • Use the FORMAT item of the INPUT CONFIG menu to select YPBPR SMPTE. Set 709 for YPBPR MATRIX. • Connect an oscilloscope to TP302.	Make flat the pedestal portion of the Y-signal waveform at TP302. Level difference: 0 ± 10 mV 	Use the adjustment menu Y/G BLACK (41H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 2 • Connect an oscilloscope to TP303.	Make flat the pedestal portion of the PB waveform at TP303. Level difference: 0 ± 10 mV 	Use the adjustment menu PB/B BLACK (32H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 3 • Connect an oscilloscope to TP304.	Make flat the pedestal portion of the PR waveform at TP304. Level difference: 0 ± 10 mV 	Use the adjustment menu PR/R BLACK (22H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.

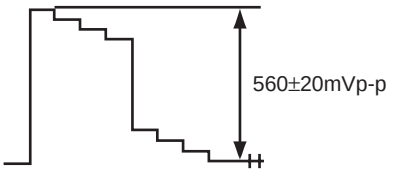
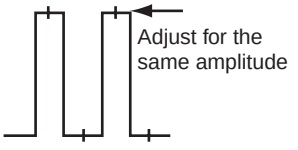
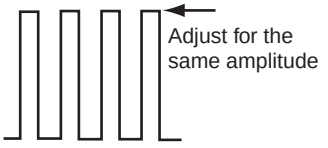
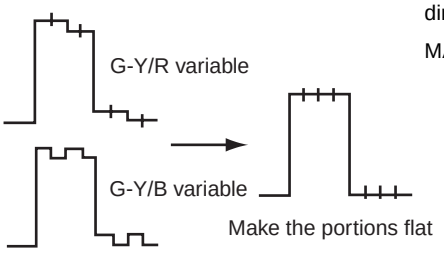
2-2. CHROMA Leak Adjustment

Status During Adjustment	Specifications	Adjustment Point
Step 1 • Input the 15 kHz/60 Hz YPBPR SMPTE (709) 100% color bar signal. • Use the FORMAT item of the INPUT CONFIG menu to select YPBPR SMPTE. Set 709 for YPBPR MATRIX. • Use the CHROMA knob to set “0” to the CHROMA data. • Connect an oscilloscope to TP303.	Make flat the PB waveform at TP303. Level difference: 0 ± 20 mV  Make the signal amplitude as flat as possible.	Use the adjustment menu CHROMA PB (11H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 2 • Connect an oscilloscope to TP304.	Make flat the PR waveform at TP304. Level difference: 0 ± 20 mV  Make the signal amplitude as flat as possible.	Use the adjustment menu CHROMA PR (10H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 3 • Set “128” to the CHROMA data using the CHROMA control knob.		

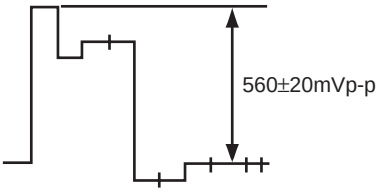
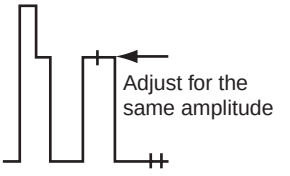
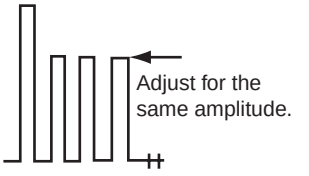
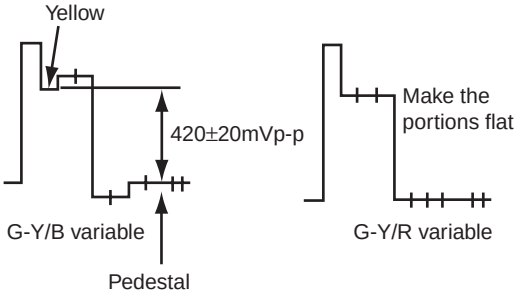
2-3. MATRIX Adjustment

Status During Adjustment	Specifications	Adjustment Point
Step 1 • Input the 15 kHz/60 Hz YPBPR SMPTE (709) 100% color bar signal. • Use the FORMAT item of the INPUT CONFIG menu to select YPBPR SMPTE. Set 709 for YPBPR MATRIX. • Connect an oscilloscope to TP1301.	GREEN waveform amplitude at TP1301: 560 ± 20 mVp-p 	Use the adjustment menu Y LEVEL (50H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 2 • Connect an oscilloscope to TP1300.	Adjust the RED waveforms to have the same amplitude at TP1300. Level difference: 0 ± 20 mV 	Use the adjustment menu PR LEVEL (60H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 3 • Connect an oscilloscope to TP1302.	Adjust the BLUE waveforms to have the same amplitude at TP1302. Level difference: 0 ± 20 mV 	Use the adjustment menu PB LEVEL (80H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 4 • Connect an oscilloscope to TP1301.	Make flat the GREEN waveform at TP1301 Level difference: 0 ± 20 mV 	Use the adjustment menu G-Y/R (70H) and G-Y/B (90H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.

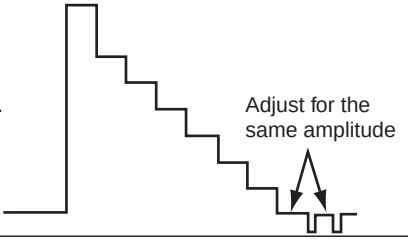
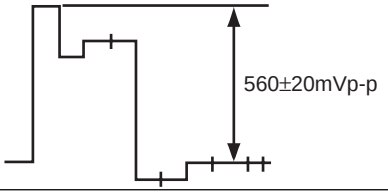
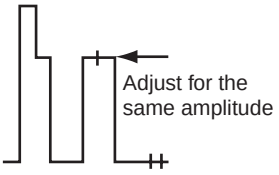
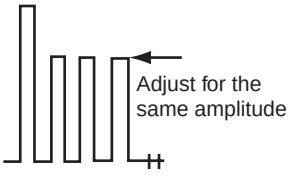
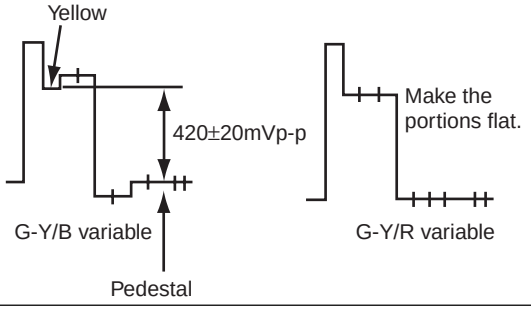
3. 15k YPBPR SMPTE (601) Signal Adjustment

Status During Adjustment	Specifications	Adjustment Point
Step 1 • Input the 15 kHz/60 Hz YPBPR SMPTE (601) 100% color bar signal. • Use the FORMAT item of the INPUT CONFIG menu to select YPBPR SMPTE. Set 601 for YPBPR MATRIX. • Connect an oscilloscope to TP1301.	GREEN waveform amplitude at TP1301: 560 ± 20 mVp-p 	Use the adjustment menu Y LEVEL (51H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 2 • Connect an oscilloscope to TP1300.	Adjust the RED waveforms to have the same amplitude at TP1300. Level difference: 0 ± 20 mV 	Use the adjustment menu PR LEVEL (62H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 3 • Connect an oscilloscope to TP1302	Adjust the BLUE waveforms to have the same amplitude at TP1302. Level difference: 0 ± 20 mV 	Use the adjustment menu PB LEVEL (82H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 4 • Connect an oscilloscope to TP1301.	Make flat the GREEN waveform at TP1301 : Level difference: 0 ± 20 mV 	Use the adjustment menu G-Y/R (71H) and G-Y/B (91H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.

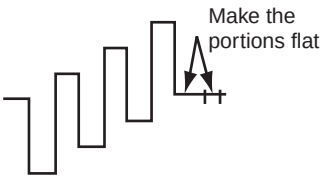
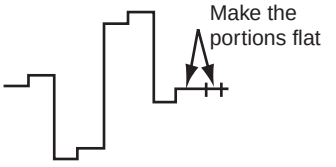
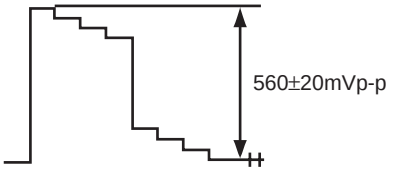
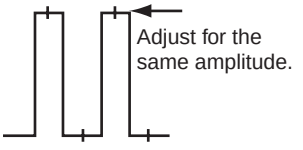
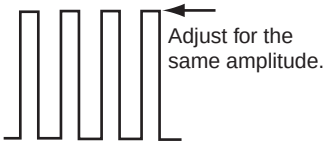
4. 15k YPBPR BETACAM SETUP 0 (601) Signal Adjustment

Status During Adjustment	Specifications	Adjustment Point
Step 1 • Input the 15 kHz/60 Hz YPBPR BETACAM SETUP 0 (601) 75% color bar signal. • Use the FORMAT item of the INPUT CONFIG menu to select YPBPR BETA 0. • Connect an oscilloscope to TP1301.	GREEN waveform amplitude at TP1301: 560 ± 20 mVp-p 	Use the adjustment menu Y LEVEL (52H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 2 • Connect an oscilloscope to TP1300.	Adjust the RED waveforms to have the same amplitude at TP1300. Level difference: 0 ± 20 mV 	Use the adjustment menu PR LEVEL (64H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 3 • Connect an oscilloscope to TP1302.	Adjust the BLUE waveforms to have the same amplitude at TP1302. Level difference: 0 ± 20 mV 	Use the adjustment menu PB LEVEL (84H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 4 • Connect an oscilloscope to TP1301.	Make flat the GREEN waveform at TP1301. Amplitude between YELLOW and pedestal: 420 ± 20 mVp-p Make flat the waveform: Level difference: 0 ± 20 mV 	Use the adjustment menu G-Y/R (72H) and G-Y/B (92H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.

5. 15k YPBPR BETACAM SETUP 7.5 (601) Signal Adjustment

Status During Adjustment	Specifications	Adjustment Point
Step 1 • Input the 15 kHz/60 Hz YPBPR BETACAM SETUP 7.5 (601) 75% color bar signal. • Use the FORMAT item of the INPUT CONFIG menu to select YPBPR BETA 7.5. • Connect an oscilloscope to TP302.	Make flat the pedestal portion of the Y-signal waveform at TP302. Level difference: 0 ± 10 mV 	Use the adjustment menu Y/G BLACK (42H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 2 • Connect an oscilloscope to TP1301.	GREEN waveform amplitude at TP1301: 560 ± 20 mVp-p 	Use the adjustment menu Y LEVEL (53H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 3 • Connect an oscilloscope to TP1300.	Adjust the RED waveforms to have the same amplitude at TP1300. Level difference: 0 ± 20 mV 	Use the adjustment menu PR LEVEL (65H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 4 • Connect an oscilloscope to TP1302.	Adjust the BLUE waveforms to have the same amplitude at TP1302. Level difference: 0 ± 20 mV 	Use the adjustment menu PB LEVEL (85H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 5 • Connect an oscilloscope to TP1301.	Make flat the GREEN waveform at TP1301. Amplitude between YELLOW and pedestal: 420 ± 20 mVp-p Make flat the waveform: Level difference: 0 ± 20 mV 	Use the adjustment menu G-Y/R (73H) and G-Y/B (93H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.

6. 33k YPBPR SMPTE (709) Signal Adjustment

Status During Adjustment	Specifications	Adjustment Point
Step 1 • Input the 33 kHz/60 Hz YPBPR SMPTE (709) 100% color bar signal. • Use the FORMAT item of the INPUT CONFIG menu to select YPBPR SMPTE. • Connect an oscilloscope to TP303.	Make flat the PB waveform at TP303. Level difference: 0 ± 10 mV 	Use the adjustment menu PB/B BLACK (33H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 2 • Connect an oscilloscope to TP304.	Make flat the PR waveform at TP304. Level difference: 0 ± 10 mV 	Use the adjustment menu PR/R BLACK (23H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 3 • Connect an oscilloscope to TP1301.	Check amplitude of the GREEN waveform at TP1301: 560 ± 20 mVp-p 	
Step 4 • Connect an oscilloscope to TP1300.	Adjust the RED waveforms to have the same amplitude at TP1300. Level difference: 0 ± 20 mV 	Use the adjustment menu PR LEVEL (61H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 5 • Connect an oscilloscope to TP1302.	Adjust the BLUE waveforms to have the same amplitude at TP1302. Level difference: 0 ± 20 mV 	Use the adjustment menu PB LEVEL (81H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.

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Section 6
Circuit Descriptions

This section describes the circuit operations of the following boards used in the BVM-D14H1J/D14H5J.

6-1. G board
6-2. G1 board
6-3. B board
6-4. C board
6-5. MA board
6-6. MB board

6-1. G Board

Power Supply Circuit

Power supply of this monitor consists of the following two switching regulators.

1. The power factor improvement regulator that is used to comply with the power supply high frequency harmonics regulations.
2. The main regulator that supplies the power to the signal system, the deflection circuit and high voltage circuit.

1. Power Factor Improvement Circuit

The power factor improvement block
The power factor improvement circuit of this monitor uses the active filter IC module (IC601) of the current-threshold type boost-chopper system to comply with the power supply high frequency harmonics regulations.
The power factor improvement circuit consists of IC601, T603 and C615.

IC601 is a module IC in which the control IC, the switching FET, the boost diode and input/output voltage detectors are built in.
Basic operation of the power factor improvement block is as follows. When the POWER signal (IC508 pin-1 output) goes "LOW" and the Vcc power is supplied to IC601, the FET inside the module IC601 is turned on and an electric current starts to flow in the primary winding of T603 and the FET. This current increases with the slope of Vin (rms)/L where L is the primary side inductance of T603. This FET current is monitored by the source current detection resistor that is connected between pin-4 and pin-7 of IC601. When this FET current reaches the set value that is specified by the multiplier inside the control IC, the FET is turned off. Then an electric current flows through the boost diode where the current decreases with the slope of -(Vd - Vin (rms))/L. When this current reaches 0, the FET is turned on.
The current-threshold operation is thus realized by the above described circuit operations. (Vd: Voltage across C615. Vin: Input voltage to power supply)
In other words, the circuit operations that are described, are performed as one-operation-cycle all the time while the power is on. When you observe the circuit operations as described above, during only the half-wave period of commercial power line frequency, you will notice that ON/OFF timing of the FET is controlled by the control IC so that the envelope of the peak values of the choke current is proportional to the half-wave of the sine waveform of the power line frequency. As the result of this control, waveform of the input voltage and that of the output voltage become similar so that the power factor is improved. At the same time, the voltage Vd across C615 becomes higher than the peak value of the input voltage to the power circuit. The voltage Vd is set to about 380 V regardless of the input voltage to the power circuit.
This circuit does not operate during the standby mode. When this circuit is not operating, the voltage Vd becomes almost equal to the peak value of the input voltage to the power supply circuit.

2. Main Regulator

The separately excited current composite resonance system is used for the main regulator. The main regulator consists mainly of IC602, IC610, T605, C629, C631 and the secondary side rectifier circuit of T605. IC602 is a multiple chip module in which the four chips of the control block, the FET drive block and the switching FET block (high side and low side) are connected by bonding wire inside the IC. IC210 has the following circuit configuration. A half-bridge rectifier is constructed by the two FET switches, the two capacitors C629 and C631, and the transformer T605 for the input voltage Vd. The secondary side of the transformer has the half wave rectifiers and full wave rectifiers for each output lines.
IC602 receives the control signal from IC610 that performs the constant voltage control over the +135 V line through the isolator PH603. The control signal changes the oscillating frequency of IC602 so that the constant voltage control is realized.
The secondary side of T605 generates not only +135 V but also +160 V, +15 V, −15 V, +6 V, −6 V powers and the heater voltage that are required by the respective circuits. The +15 V, −15 V, +6 V, −6 V powers are regulated to +12 V, −12 V, +5 V, −5 V powers by the three-terminal regulators respectively so that these powers are supplied to each circuit board.

3. Over-Voltage Protection and Over-Current Protection Circuit

The +135 V voltage line of the main power supply has the over-voltage protection circuit and the over-current protection circuit that protect the power supply circuit and the loads when an abnormality occurs in the respective loads and in the voltage feedback system.
When an over-current occurs, the latch circuit consisting of Q616 and Q617 is turned on so that the VCC power to IC601 and IC602 is turned off through the isolator PH604 to stop operation of the main power supply circuit.
This protection circuit is released when the input power to the main power supply circuit is turned off once or when the standby mode is selected.

Deflection and High Voltage Circuit

1. Sync Signal and Deflection Signal Processing Circuit

The horizontal and vertical sync signals that are input from CN501 (pins-1/-2) are sent to the H/V DELAY timing circuit consisting of IC510, IC522, IC509 and IC526. The H/V DELAY timing circuit outputs the sync signals that have the same phase as those of the input signal during normal operation. However, during the H/V DELAY mode, it outputs the delayed sync signals to which delay is given by IC509 and IC510. The output sync signals are processed of the waveforms by IC503 and are sent to the deflection signal processor IC507.
The deflection signal processor IC507 outputs the various signals that are required for deflection, such as horizontal drive circuit, parabola signal for dynamic focusing, parabola signal for picture distortion correction, vertical drive signal and H/V blanking signals. The output signals are controlled directly by the microprocessor in the MA board through I2C bus.
The horizontal free-running frequency is set for about 18 kHz. The pull-in range of the input signal frequency is from 15 kHz to 45 kHz.
The deflection signal processor IC507 has the built-in protector for X-ray protection. When its pin-15 is raised to 8 V or higher, the X-ray protection circuit starts working to stop the horizontal and vertical outputs. The X-ray protector circuit can be reset by turning off the main power once then back on, or by entering the standby mode.
There can be a case that the monitor receives the non-standard TV signal such as the output signal from VTR. In order to reduce the skew effect on screen caused by irregular timing of the input sync signal, the PLL circuit inside the IC507 is stopped during the vertical blanking period.
This function is effective when the horizontal frequency of the input signal is 15 kHz (NTSC and PAL).
Because this circuit produces an ill effect when the standard TV signal is input, use or not-use of this circuit can be selected from the on-screen menu.

2. PWM Control Circuit for +B Power Voltages for Horizontal Deflection and of High Voltage

The PWM control circuit for +B power voltage consists of IC515 and its peripheral circuit. The horizontal drive signal that is output from IC507 pin-21 is used as the PWM trigger signal.
The PWM control for horizontal deflection system is performed by inputting the deflection distortion correction signal that is output from IC507 pin-31 to which the H. size control DC voltage super-imposed, to IC515 pin-8. On the other hand, the horizontal signal that is fed back from the horizontal output circuit is inputted to IC515 pin-7. These two input signals are compared and the error signal between them, that is the PWM control signal is output from IC515 pin-11. The PWM control output signal is sent to the +B regulator circuit consisting of Q2503 and its peripheral circuit that control the H. size and the deflection distortion correction.
The PWM control for the high voltage circuit is performed by inputting the reference signal generated by IC519, to IC515 pin-16 that is compared with the FBT high voltage detected voltage that is input to IC515 pin-17. The error signal between them, that is the PWM control signal is output from IC515 pin-13. The PWM control output signal is sent to the +B regulator circuit consisting of Q514 and its peripheral circuit that control the high voltage to be supplied to CRT.
The PWM control signal that is output from IC515 receives the DTC (Dead Time Control) in order to protect the horizontal output circuit and the high voltage output circuit from damage caused by the sharp change of frequency of the input video signal. The DTC circuit works as follows. When frequency of the input sync signal is changed, the unlock signal that is output from IC507 pin-37 is sent to IC507 pin-6 as the DTC signal input via the switches Q523 and Q504, so that the PWM is controlled to decrease the +B regulator output voltages to be supplied to the horizontal and high voltage systems.

3. Horizontal Output Circuit

The horizontal drive signal that is output form IC507 pin-21 is amplified by the horizontal drive circuit consisting of Q2501, Q2502, Q2505 and their peripheral circuit. The horizontal drive signal then drives T2502 (HDT) and Q2508 (H. OUT). The H. pulse is induced by the resonance between the capacitors C2528, C2530, C2531 and theH. winding impedance.

The H. pulse is voltage-divided, wave-shaped by IC2501 and its peripheral circuit, and is sent to IC507 pin-6, the B board and the MA board.
Amplitude of the horizontal deflection current is detected by T2503, Q2513 and their peripheral circuit. The detected amplitude is fed back to the PWM control circuit.
Multiple S-shape correction capacitors are prepared, and are selected by Q2514, Q2515, Q2516, Q2517, Q2518 and Q2519. The S-shape correction capacitors are switched at the following three points of horizontal frequencies: Horizontal frequency of 15 kHz, H. frequency in the range of 27 to 33.75 kHz and H. frequency in the range of 37 to 45 kHz. The horizontal linearity correction coils are switched by the relay RY2501 when the H. frequency of 15 kHz is input.
The H. centering circuit consists of IC2502, IC2504 and Q2504. The H. center position is controlled by amplifying the H. CENT. DC signal that is supplied from IC508 (D/A) and by super-imposing the DC current to the horizontal deflection current. As to the power supply for IC2504, the secondary winding of T2501 (HOT) is used so that a floating power supply is realized.

4. Vertical Output Circuit

The vertical output circuit consists of IC2503 and its peripheral circuit.
The vertical output signal is generated by inputting the V. drive signal that is output form IC507 pin-29, to IC2503 pin-1 where it is amplified. The V. center position is controlled by inputting the V. DC signal that is supplied from IC507 pin-28, to IC2503 pin-7. The vertical deflection amplitude and the vertical center position are controlled by IC507.
The vertical feedback pulse is generated by wave-shaping the V. flyback pulse with R2570, R2571 and D2520, and by inputting it to IC507 pin-30.

5. High Voltage Output Circuit

The HV drive signal that is output from IC515 pin-23 is sent to the high voltage output circuit consisting of Q506, Q507, Q513 (HV. OUT) and their peripheral circuit where the flyback pulse is generated by resonance. The flyback pulse is not only supplied to T502 (FBT) but also rectified, smoothed out by D520 and C578 so that the rectified high voltage is supplied to the C board as the G2 voltage.
Amplitude of the high voltage is voltage-divided by the high voltage resistors inside the FBT, and is output from T502 pin-14. The detected output of the high voltage is again voltage-divided by IC520, R1509, R1576 and R1577 so that it is sent to the PWM control signal as the high voltage feedback voltage.

6. Dynamic Focus Output Circuit

The H. focus signal that is output from IC507 pin-17 is amplified by the H. focus amplifier consisting of Q510, Q511, Q512 and the peripheral circuit. The H. focus signal then drives T501 (DFT) where it is amplified to about 500 V and is supplied to T502 pin-17. The H. focus signal interferes with the white balance reference pulse inside the CRT and produces an ill effect. In order to prevent occurrence of the ill effect, the H. focus signal is of a constant voltage is used during the vertical blanking period instead of the H. parabola signal. This switching is performed by IC516, IC524 and the peripheral circuit.
The V. focus signal that is output from IC507 pin-32 is amplified by the V. focus amplifier consisting of Q517, Q518 and the peripheral circuit. The V. focus signal is amplified to about 200 V and is supplied to T502 pin-18.

7. H/V Blanking Circuit

The H/V blanking circuit consists of IC501, IC527, IC509 and the peripheral circuit. Timing of the H. blanking signal is determined by the timing reference signal. The H. SAW signal that is output from IC507 pin-16 is used as the timing reference signal for the H. blanking. IC501 determines the start position of the H. blanking and IC509 determines the end position of the H. blanking.
The V. blanking circuit consists of IC502, IC528, IC510 and the peripheral circuit. The V. SAW signal that is output from IC507 pin-29 is used as the timing reference signal for the V. blanking. IC502 determines the start position of the V. blanking and IC510 determines the end position of the V. blanking.
Timing control of the H/V blanking signal is performed using the control voltage that is output from IC512 (DA).

8. Protector Circuit

The H/V protector circuit consists of IC523, IC514 and the peripheral circuit. When the voltage that appears at T502 pin-6 (FBT tertiary winding) exceeds the reference voltage that is set by IC514, the internal protector circuit of IC507 is started up through D506. The operating point of the H/V protector circuit is set at about 27 kV of the high voltage output.
The ik protector circuit consists of IC517, IC523 and the peripheral circuit. The ABL current value is detected by R1521, R1522 and R1523. When the detected current value exceeds the reference voltage that is set by IC517, the internal protector circuit of IC507 is started up through D507. The operating point of the ik protector circuit is set at about 1500 μA of the ABL current.

6-2. G1 Board

The G1 board is the standby regulator circuit that supplies the standby power (STBY5V) for the control system devices (such as CPU).
The standby regulator consists mainly of IC601, IC1602, PH601, T1601 and D1606. IC1601 has the built-in switching FET, the PWM controller and protection circuit. The control terminal of IC1601 receives the control signal from IC1602 that performs the constant voltage control over the STBY5V line through the isolator PH601. The internal FET inside IC1601 is PWM-switched by the control signal so that the STBY5V output from the secondary winding of T1601 is stabilized.

1. Over-Voltage Protection and Over-Current Protection Circuit

The STBY5V line of the standby power supply have the over-voltage protection circuit that protects the power supply and the loads when an abnormality occurs in the voltage feedback system.
When the over-voltage is detected, the "LOW" signal is set to the control terminal of the latch circuit through the isolator PH602 so that the power supply is stopped by the latch circuit consisting of Q606 and Q607.
This protection circuit is released wen the input power is turned off that discharges the C615 voltage of the G board.
When an over-current is detected in the STBY5V line, the micro-fuse F1603 blows.

6-3. B Board

1. Clamp Circuit (1)

The signal that is selected by the option board is input to CN301.
IC300 (1/3) (analog switch) is turned ON by the Y-CLP-P pulse. As a result, the pedestal voltage of the Y/G signal is sampled-and-held. In IC303, the sampled-and-held voltage and the reference voltage (Y/G BLACK voltage) are compared so that the error voltage is used to control the bias current of the Y/G signal clamp amplifier (Q300 to Q302) so that the pedestal voltage of the Y/G signal is clamped to a fixed voltage.
The same clamp operation is performed for the PB/B and PR/R signals but the C-CLP-P pulse is used as the clamp pulse.

2. Matrix Circuit

The Y, R-Y and B-Y signals are converted to the R, G and B signals by the matrix circuit in the Y/PB/PR signal is being input.
IC306 is the Y-level adjustment amplifier. IC307 and IC308 are the chroma level adjustment amplifier. The R-signal is generated by adding the Y-signal to the R-Y signal that has passed IC400 (PR gain control amplifier).
The Y-signal is generated by adding the R-Y signal that has passed IC400 (PR gain control amplifier), the B-Y signal that has passed IC401 (PB gain control amplifier) and the Y-signal that is inverted and amplified by Q463.
The B-signal is generated by adding the Y-signal to the B-Y signal that has passed IC401 (PB gain control amplifier).

3. RGB Selector Switch

IC1300 (1/3), IC1302 (1/3) and IC1303 (1/3) are the selector switch selecting either the RGB signal or the YPBPR signal (matrix circuit). Output of the selector switch is R, G and B signals.

4. Clamp Circuit (2)

The R-signal is sampled-and-held by the timing pulse of the deflection system.
IC1305 compares the sampled R-signal with the reference signal. The error voltage controls the DC bias of the R-signal amplifier (Q1300 to Q1302) so that the pedestal level is kept to a constant DC level all the time. The same clamp operation is performed in the G and B signals in the same way.

5. OSD Insertion Circuit

The on-screen display of the R-signal is realized by inserting the OSD blanking with IC1300 (2/3) and by inserting the OSD with IC1304 (1/3). The WINDOW signal that is used during the AUTO W/B adjustment is created by the character generator, and uses the same signal line in the same way for character display. The same insertion operation is performed in the G and B signals in the same way.

6. CUT-OFF Circuit

CUT-OFF of the R-signal is performed by IC1304 (2/3, 3/3). The same cut-off operation is performed in the G and B signals in the same way.

7. CXA1739 Peripheral Circuit

The RGB signal is input during the normal operation and the color difference signal is input during the blue-only mode.
(The B-signal is input to the Y input connector.)
CXA1739 has the built-in auto cut-off loop. The auto cut-off reference pulse is inserted into every H. period in the order of R, G then B channels at the end of the V. BLKG period (during the 3H period immediately after the rise-up of the V. pulse that is supplied to pin-18) in the output signal from CXA1739. The return pulse of the reference pulse is buffered by Q1402 and input to IC1401 pin-25. The return pulse that is input to pin-25 is compared with the BIAS control voltage by the voltage comparator. The error signal from the comparator is used to shift the DC output voltage until the return pulse agrees with the adjustment voltage. This circuit operation is performed to prevent the changing of the cut-off level caused by the drift of CRT or of the drive circuit.
Q1431 to Q1434 in the R-signal output circuit remove the smear that occurs inside the IC.
The same circuit operation is performed in the G-channel and the B-channel too.

8. ABL Circuit

The ABL circuit consists of Q1460 for ABL and Q1461 for BRT ABL.
The ABL voltage from the deflection block is input the respective emitters of Q1460 and Q1461. The voltage-divided DC voltage of the ABL signal is input the respective bases of Q1460 and Q1461. Their collectors are connected to IC1401 pin-46 (PIC CONT) and pin-7 (BRT CONT) respectively. When these transistors are turned on, the ABL operation can be performed by decreasing their respective control voltages.

9. AUTO CHROMA PHASE

The signals that are output from IC1401 are selected by IC2380. Only the sample pulse portion of the selected signal is sampled by IC2381 and is compared with the output by IC2382. The error signal from the comparator is fed back to DAC through IC2383 and automatically controls the PB LEVEL or the R LEVEL until the output agrees with the sampled level.

10. B1 Board

The B1 board is an aperture correction circuit.
The aperture correction performs the frequency compensation at 5 MHz when the input signal is 480/60i and 575/501 with DL400/DL401. It performs the frequency compensation at 16 MHz when any other signals are input.
DL404 and DL405 are the delay lines that corrects the delay amount of the Y-signal. The PB and PR signals are corrected of their delay amounts by DL501, DL502, DL503 and DL504.
Amount of compensation can be varied by 2 to 6 dB when the APT is ON using the aperture correction amplifier.

11. Sync Separator Circuit/B2 Board

The sync separator circuit consists of the sync AGC circuit and the B2 board.
Either the input sync signal in the mode of 480/60i and 575/501 or that in any other modes, is selected by IC3301 (2/3), (3/3), Q3302 and Q3303. The sync signal is separated by the SYNC AGC circuit of Q3304 to Q3319.
Either INT sync or EXT sync is selected by IC3301.
In the B2 board, the equalizing pulses are extracted by IC3901, the H. sync pulse is separated by the H. SYNC SEP. circuit consisting of IC3904, IC3905, IC3906, IC3907 and the V. sync pulse is separated by the V. SYNC SEP. circuit consisting of Q3905, Q3907, Q3908.
The switch IC3902 is the selector switch that selects either the internal sync separator output or the already separated H. and V. sync signals that are input when the SDI signal is used.

6-4. C Board

The C board circuit is the CRT drive circuit.
The R-signal that is input to CN702 is amplified by about 25 dB and inverted by the cascaded amplifier consisting of Q730, Q732 and Q733, and is sent to the cathode.
This amplifier has the frequency compensation characteristics (peaking characteristics) by R733, C730, C776, R746 and L730. Q702 is the auto cut-off circuit that allows to flow the output pulse through R704 via Q735 when Q702 is ON.
The reference pulse that is current-to-voltage converted by R704, is input to IC1401 pin-25 through a buffer in the B board in order to activate the auto cut-off circuit.
The above-described circuit operations are applied to the G-signal and B-signal.

6-5. MA Board

1. System Control

IC106 (system control CPU) controls the monitor in accordance with the program that is installed in IC108 (flash EEPROM). The program in IC108 can be re-written by the boot loader program in IC106. Various settings are saved in the SRAM (IC111) that is backed up by battery.

2. Internal Bus inside Monitor

Most blocks of the deflection circuits and the signal circuits are controlled by the I2C bus that is driven by IC103 (5/6), (6/6). The I2C bus is controlled of its operation by controlling the general purpose port of IC106 by software.
IC112 is an expansion I/O unit that is used to control the internal bus and the TALLY LED.

3. Connection to Options

The respective option boards are controlled by IC101 (1/4), (2/4), (3/4), IC103 (1/6), (2/6), (3/6), (4/6) and IC104. The data communication with the option slot bus uses the strobe/hand-shake method using the SLOT ID signal. Data is transferred by MISO/MOSI/SCLK. The MISO/MOSI/SCLK signal is also used for communication between the MA board and the MB board.
IC112 is the RS-422 driver that establishes communication to read the key data or knob information of the internal controller or the control unit and to turn on/off the LED.

6-6. MB Board

1. Character Display and Internal Signal Generator

IC1107 is the character generator IC such as menu characters. IC1110 generates the 4:3 marker and the various signals for automatic adjustments.
Outputs of the two IC are mixed by IC1100 and is output.

2. Serial Communication Driver

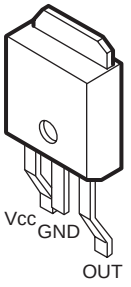
IC1105 is the communication controller for the serial remote control. It performs the transmission and reception of the serial remote communication together with the RS-485 driver of IC1103 and IC1106.
IC1108 (communication controller) and IC1109 (RS-232 driver) performs the transmission and reception of the OPTION terminals.

3. Parallel Remote Control

IC1112 reads out the status of the parallel remote terminal and transfers it to the CPU in the MA board.

Section 7
Semiconductors

BA05FP-E2



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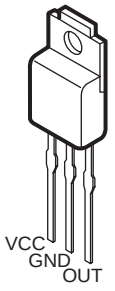
BA12T



CXA1211M
CXA1521M
LM358D
LM393PS
LTC490CS8
M24C02-MN6T
MAX490ECSA
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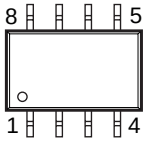
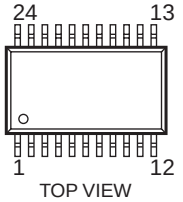


TOP VIEW

CXA1544M-T6
NJU3716M-T2



TOP VIEW

CXA1875AM-T4
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MAX3100CEE-TG068
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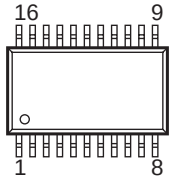
MC74HC4538AF
TC74HC4053AFT (EL)
TC74HC4538AF



TOP VIEW

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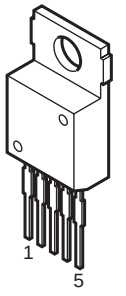

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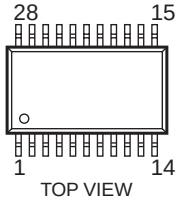

TOP VIEW

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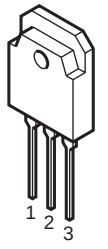

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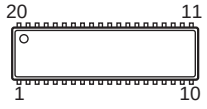
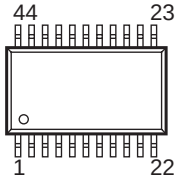


TOP VIEW

MB89613R-651

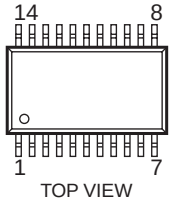
TOP VIEW

MBM29F400BC-90FP



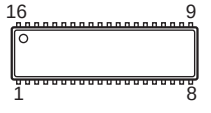
TOP VIEW

MC74HC00AFEL
MC74HC08AF
MC74HC589AFEL
TC74HC30AF
TC74VHC02F
TC74VHC04F
TC74VHC125F
TC74VHC138F
TC74VHC14F



TOP VIEW

MC74HC175FEL



TOP VIEW

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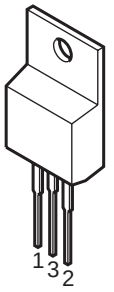

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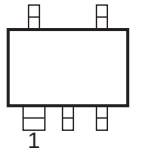
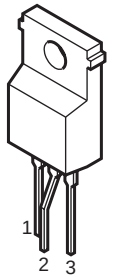
TC-4S30F
TC4S11F
TC4S71F
TC7S08F
TC7S14F



TOP VIEW

SE-135N



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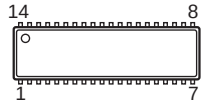
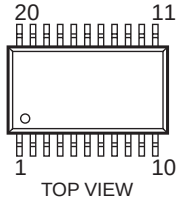


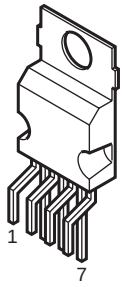
TOP VIEW

TC74VHC244F
TC74VHC574F



TOP VIEW

TDA8172



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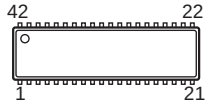

TOP VIEW

IC, TRANSISTOR

TL431CLP
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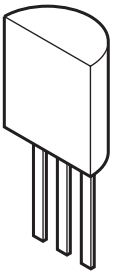

Z8622812PSC

TOP VIEW

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2SA1330-06
2SA1462-T1Y33
2SA1462-Y33
2SC1623-L5L6
2SC3326N-A
2SC3392-5-TB
2SC3545-T43
DTA114EKA-T146
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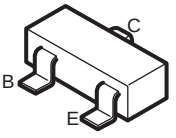

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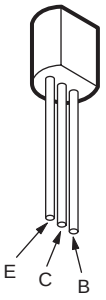

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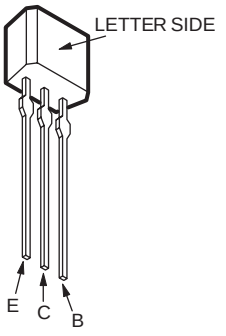

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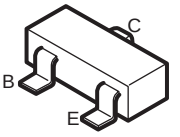

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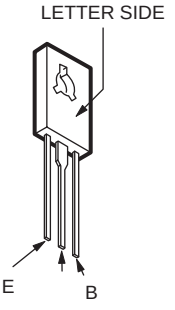

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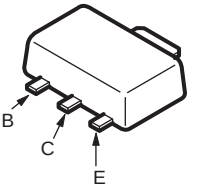

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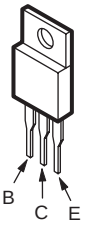

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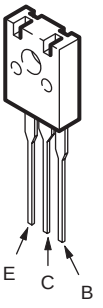

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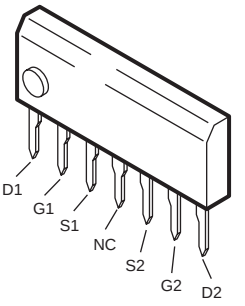

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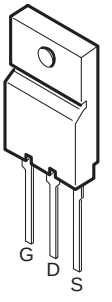

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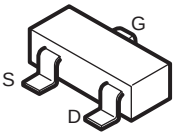

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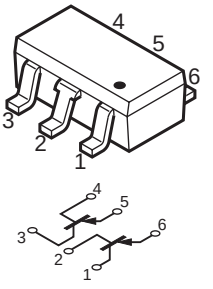

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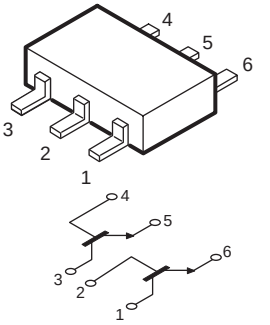

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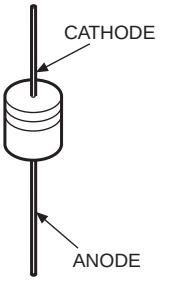
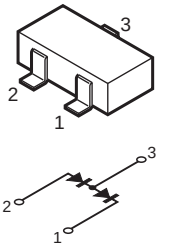
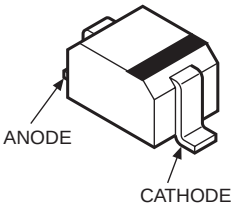
RD18ESB1
RD27ESB2
RD5.1ESB3
RD6.2ESB2
RD6.8SB2-T1



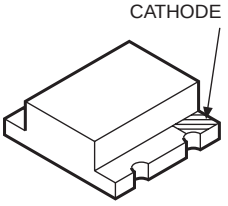
1SS226



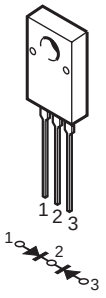
1SS352
RD12ESB2
RD13SB2
RD15SB1
RD3.3SB
RD30SB-T1
RD4.7SB2
RD6.2SB



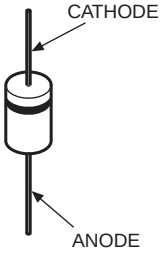
CL-155Y/PG-CD



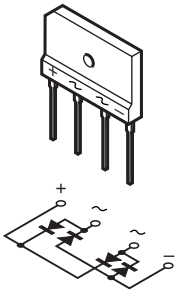
D10SC9M



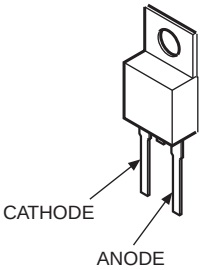
D1NL20U-TR
D1NL40-TA2
ERA91-02
ERD38-06
RH-1A
S2L20UF



D4SB60L



DD54SCLS-YCC-11



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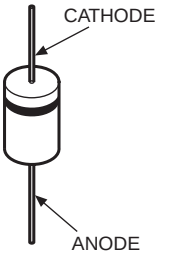
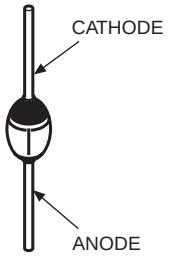
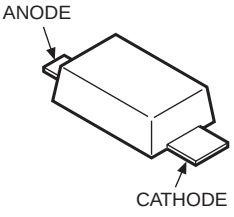
GP08D
RGP02-17EL-6433



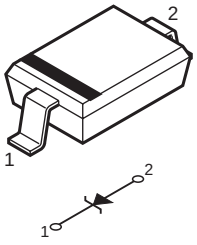
FE3D



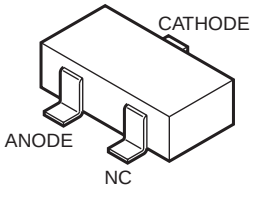
MA111-(K8).S0



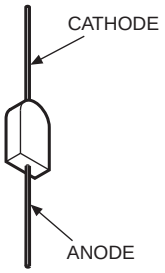
RD10SB1
RD10SB3-T1
RD12SB-T1
RD12SB1-T1
RD5.6SB2
RD7.7SB1-T1



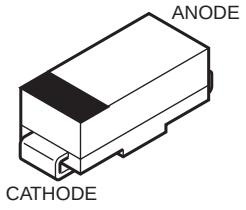
RD22M-B



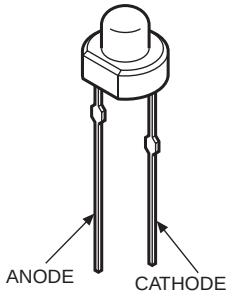
RM11C



SC311-6-TE12RA
SC802-04



SLR-325DCT31
SLR-325MCT31
SLR-325VCT31



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Section 8
Exploded Views

NOTE :

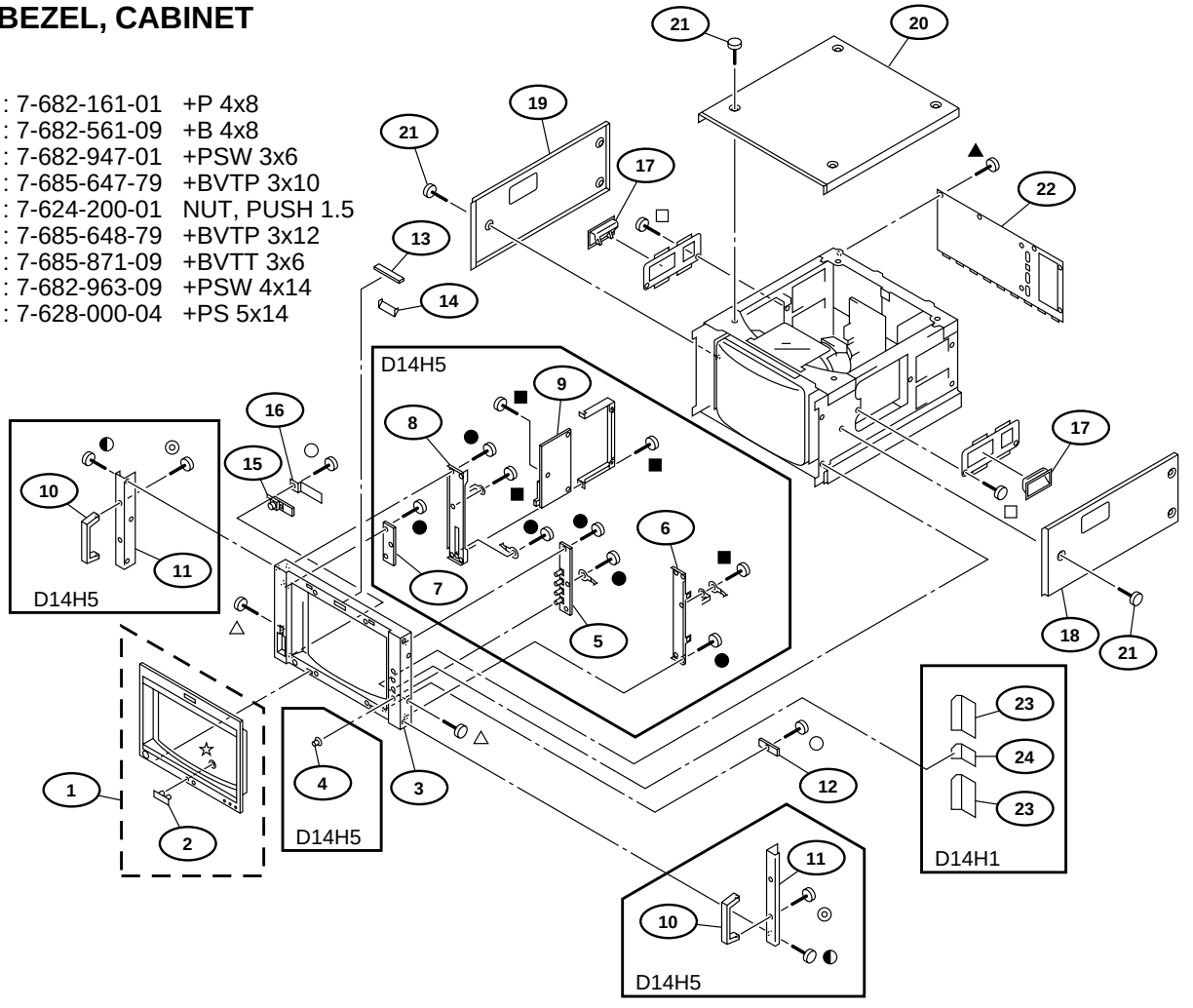
The components identified marked ⚠ are critical for safety.
Replace only with the part number specified.

Les composants identifiés par la marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remarks column.

8-1. BEZEL, CABINET

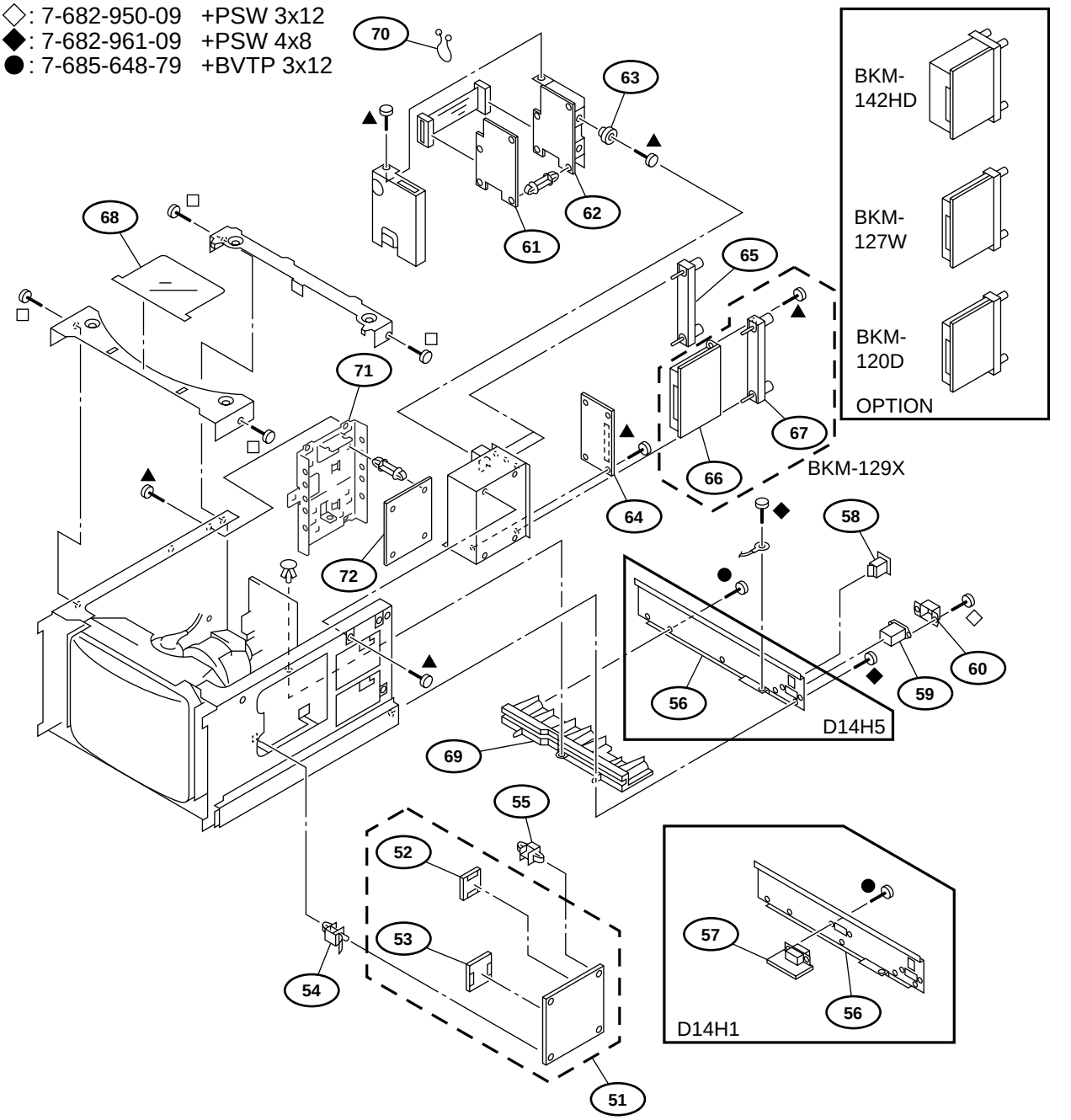
□ : 7-682-161-01 +P 4x8
△ : 7-682-561-09 +B 4x8
■ : 7-682-947-01 +PSW 3x6
○ : 7-685-647-79 +BVTP 3x10
☆ : 7-624-200-01 NUT, PUSH 1.5
● : 7-685-648-79 +BVTP 3x12
▲ : 7-685-871-09 +BVTT 3x6
◐ : 7-682-963-09 +PSW 4x14
◎ : 7-628-000-04 +PS 5x14



Ref.No.	Part No.	Description	Remark
1	X-4037-285-1	MASK (16:9) ASSY	2
2	* 3-718-322-02	EMBLEM, SONY	
3	(X-4037-278-1	BEZEL ASSY (D14H5)	
	X-4033-145-1	BEZEL ASSY (D14H1)	
4	4-050-851-01	KNOB, CONTROL (D14H5)	
5	* A-1372-664-A	HA MOUNT (D14H5)	
6	* 4-050-925-04	BRACKET (RIGHT), BEZEL (D14H5)	
7	* A-1372-665-A	HB MOUNT (D14H5)	
8	* 4-050-924-04	BRACKET (LEFT), BEZEL (D14H5)	
9	* A-1375-185-A	HC COMPL (D14H5)	
10	* 4-337-212-11	HANDLE (D14H5)	
11	4-050-922-01	BASE, HANDLE (D14H5)	
12	(* A-1373-742-A	YB MOUNT (D14H5)	
	* A-1373-717-A	YB MOUNT (D14H1)	
13	* A-1373-716-A	YA MOUNT	
14	* 4-050-876-01	PLATE, LIGHT INTERCEPTION	
15	(* A-1373-743-A	YC MOUNT (D14H5)	
	* A-1373-718-A	YC MOUNT (D14H1)	
16	* 4-061-920-01	INSULATOR, YC	
17	4-043-825-01	HANDLE	
18	* 4-073-226-01	CABINET (R)	
19	* 4-073-227-01	CABINET (L)	
20	(4-050-931-01	CABINET (UPPER) (D14H5)	
	4-050-967-01	CABINET(UPPER) (D14H1)	
21	4-063-969-01	SCREW (OS), CASE, CLAW	
22	(* 4-073-201-01	PANEL (UPPER), REAR (D14H5)	
	* 4-073-228-01	PANEL (UPPER),REAR (D14H1)	
23	* X-4033-276-1	GUARD ASSY,HARNESS(L) (D14H1)	
24	* X-4033-277-1	GUARD ASSY,HARNESS(S) (D14H1)	

8-2. M BLOCK, SIGNAL BLOCK

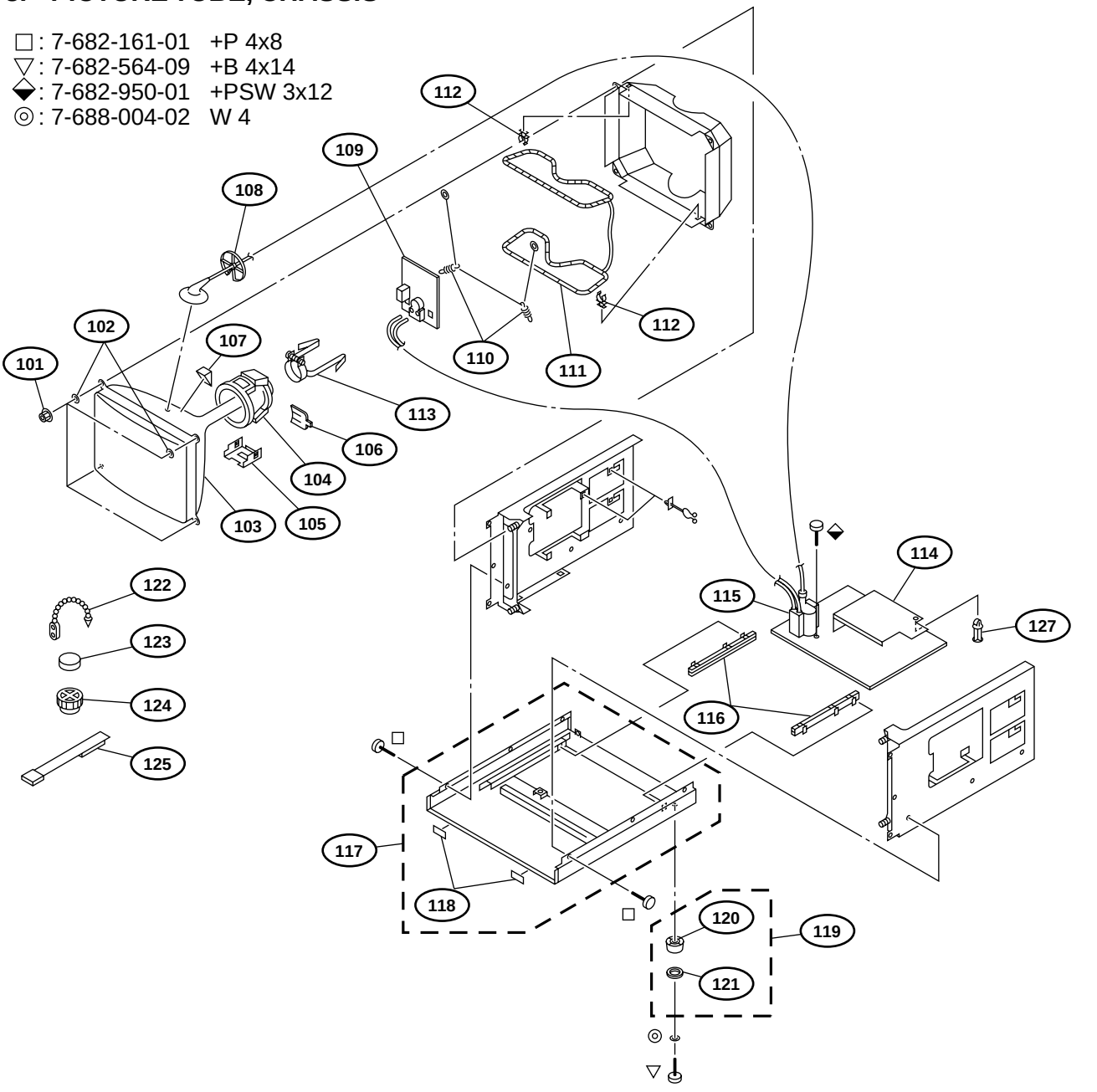
▲: 7-685-871-09 +BVTT 3x6
□: 7-682-950-01 +PSW 3x12
◇: 7-682-950-09 +PSW 3x12
◆: 7-682-961-09 +PSW 4x8
●: 7-685-648-79 +BVTP 3x12



Ref.No.		Part No.	Description	Remark
51	*	A-1136-014-A	B COMPL	52,53
52	*	A-1131-464-A	B2 MOUNT	
53	*	A-1131-463-A	B1 MOUNT	
54	*	3-703-141-00	HOLDER, PWB	
55	*	4-353-620-11	HINGE, PC BOARD	
56	*	4-073-208-01	PANEL (LOWER), REAR (D14H5)	
	*	4-073-232-01	PANEL(LOWER),REAR (D14H1)	
57	*	A-1372-136-A	HD MOUNT (D14H1)	
58	⚠	1-762-300-11	SWITCH, AC POWER SEESAW	
59	⚠	1-251-382-11	INLET, AC 3P(WITH NOISE FILTER)	
60		2-990-241-02	HOLDER (A), PLUG	
61	*	A-1306-572-A	MA COMPL	
62	*	A-1306-571-A	MB COMPL	
63	*	4-073-210-01	COLLAR	
64	*	A-1390-942-A	T MOUNT	
65	*	X-4037-166-1	PANEL ASSY, BLANK	
66	*	A-1136-013-A	BX COMPL	
67	*	X-4037-154-1	PANEL ASSY, CONNECTOR	
68	*	4-050-913-02	INSULATOR (ANODE)	
69	*	4-074-026-01	HOLDER,G PWB	
70		3-701-417-02	PURSE LOCK (11 DIA.)	
71	*	4-074-027-01	BRACKET, G1	
72	*	A-1316-504-A	G1 COMPL	

8-3. PICTURE TUBE, CHASSIS

□ : 7-682-161-01 +P 4x8
▽ : 7-682-564-09 +B 4x14
◆ : 7-682-950-01 +PSW 3x12
◎ : 7-688-004-02 W 4



Ref.No.		Part No.	Description	Remark
101		4-306-034-00	NUT,(B) (M5), FLANGE	
102		4-348-567-00	WASHER, CRT POSITION	
103	(⚠	8-738-335-05	PICTURE TUBE M34LHF20X (For USA)	
	⚠	8-738-333-05	PICTURE TUBE M34LHF21X (For AEP,AUS)	
104	⚠	1-451-508-11	DEFLECTION YOKE	
105		4-053-410-02	SHIELD, DY	
106		X-2105-533-1	PLATE ASSY, CORRECTION, TLH	
107		4-050-492-01	SPACER, DY	
108	*	4-047-349-01	HOLDER, HV CABLE	
109	*	A-1331-883-A	C MOUNT	
110		4-303-774-03	SPRING	
111	⚠	1-411-660-21	COIL, DEMAGNETIC	
112		4-395-824-01	HOLDER, DEGAUSSING COIL	
113	*	4-382-050-01	BAND, C PC BOARD	

Ref.No.		Part No.	Description	Remark
114	*	A-1316-456-A	G COMPL	115
115	⚠	X-4560-177-1	TRANSFORMER ASSY,FLYBACK (NX-4141/J1A4)	
116	*	4-073-218-01	GUIDE, PWB	
117	*	X-4037-279-1	CHASSIS ASSY, BOTTOM (D14H5)	118
117	*	X-4037-288-1	CHASSIS ASSY,BOTTOM (D14H1)	
118		3-840-486-02	CUSHION, SPEAKER	
119		X-4033-117-1	FOOT ASSY	120,121
120		X-4836-202-9	FOOT	
121	*	3-668-845-01	CUSHION, LEG	
122		4-308-870-00	CLIP,LEAD WIRE	
123		1-452-032-00	MAGNET,DISC (10MMϕ)	
124		1-452-094-00	MAGNET,ROTATABLE DISK:15MMϕ	
125		4-051-735-22	PIECE A(75), CONV. CORRECT	
127	*	3-687-542-41	SPACER, PC BOARD SPACE	

B

Section 9
Electrical Parts List

NOTE :

The components identified marked ⚠ are critical for safety.
Replace only with the part number specified.

Les composants identifiés par la marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.

RESISTORS
- All resistors are in ohms.
- F: nonflammable
- METAL: Metal-film resistor
- METAL OXIDE: Metal oxide-film resistor

Ref.No.	Part No.	Description			Remark
	* A-1136-014-A	B COMPL ********* Including B1 and B2 MOUNT			
	<CAPACITOR>				
C300	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C301	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C304	1-104-760-11	CERAMIC CHIP	0.047µF	10%	50V
C305	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C306	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C307	1-164-505-11	CERAMIC CHIP	2.2µF		16V
C308	1-115-152-11	ELECT CHIP	22µF	20%	6.3V
C309	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C310	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C311	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C312	1-126-390-11	ELECT CHIP	22µF	20%	6.3V
C332	1-104-760-11	CERAMIC CHIP	0.047µF	10%	50V
C333	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C334	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C335	1-164-505-11	CERAMIC CHIP	2.2µF		16V
C336	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C337	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C338	1-115-152-11	ELECT CHIP	22µF	20%	6.3V
C339	1-164-505-11	CERAMIC CHIP	2.2µF		16V
C340	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C341	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C367	1-104-760-11	CERAMIC CHIP	0.047µF	10%	50V
C368	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C369	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C370	1-164-505-11	CERAMIC CHIP	2.2µF		16V
C371	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C372	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C373	1-115-152-11	ELECT CHIP	22µF	20%	6.3V
C374	1-164-505-11	CERAMIC CHIP	2.2µF		16V
C375	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C376	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C377	1-126-396-11	ELECT CHIP	47µF	20%	16V
C378	1-126-396-11	ELECT CHIP	47µF	20%	16V
C386	1-126-916-11	ELECT	1000µF	20%	6.3V
C387	1-126-916-11	ELECT	1000µF	20%	6.3V
C450	1-126-394-11	ELECT CHIP	10µF	20%	16V
C451	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C452	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C454	1-126-396-11	ELECT CHIP	47µF	20%	16V
C460	1-126-390-11	ELECT CHIP	22µF	20%	6.3V
C461	1-126-390-11	ELECT CHIP	22µF	20%	6.3V
C462	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C463	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C464	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C465	1-126-394-11	ELECT CHIP	10µF	20%	16V
C466	1-126-394-11	ELECT CHIP	10µF	20%	16V
C467	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C468	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C485	1-126-390-11	ELECT CHIP	22µF	20%	6.3V
C486	1-126-390-11	ELECT CHIP	22µF	20%	6.3V
C487	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C488	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C489	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C490	1-126-394-11	ELECT CHIP	10µF	20%	16V
C491	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C492	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C494	1-126-396-11	ELECT CHIP	47µF	20%	16V
C1300	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C1301	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C1302	1-163-087-00	CERAMIC CHIP	4PF	0.25PF	50V
C1304	1-104-760-11	CERAMIC CHIP	0.047µF	10%	50V
C1305	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1306	1-109-982-11	CERAMIC CHIP	1µF	10%	10V
C1307	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C1308	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C1309	1-164-505-11	CERAMIC CHIP	2.2µF		16V
C1310	1-164-346-11	CERAMIC CHIP	1µF		16V
C1320	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C1321	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C1322	1-163-091-00	CERAMIC CHIP	8PF	0.25PF	50V
C1324	1-104-760-11	CERAMIC CHIP	0.047µF	10%	50V
C1325	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1326	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C1327	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C1330	1-164-346-11	CERAMIC CHIP	1µF		16V
C1340	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C1341	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C1342	1-163-086-00	CERAMIC CHIP	3PF	0.25PF	50V
C1344	1-104-760-11	CERAMIC CHIP	0.047µF	10%	50V
C1345	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1346	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C1347	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C1348	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C1350	1-164-346-11	CERAMIC CHIP	1µF		16V
C1400	1-163-035-00	CERAMIC CHIP	0.047µF		50V

B

Ref.No.	Part No.	Description			Remark
C1401	1-163-035-00	CERAMIC CHIP	0.047µF		50V
C1402	1-163-035-00	CERAMIC CHIP	0.047µF		50V
C1404	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C1405	1-163-035-00	CERAMIC CHIP	0.047µF		50V
C1406	1-163-809-11	CERAMIC CHIP	0.047µF	10%	25V
C1407	1-163-809-11	CERAMIC CHIP	0.047µF	10%	25V
C1408	1-163-809-11	CERAMIC CHIP	0.047µF	10%	25V
C1409	1-164-489-11	CERAMIC CHIP	0.22µF	10%	16V
C1410	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1411	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1412	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1413	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C1414	1-163-275-11	CERAMIC CHIP	0.001µF	5%	50V
C1415	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C1416	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1417	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1418	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1419	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C1420	1-163-275-11	CERAMIC CHIP	0.001µF	5%	50V
C1421	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C1422	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1423	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1424	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C1425	1-163-275-11	CERAMIC CHIP	0.001µF	5%	50V
C1426	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C1427	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C1428	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1429	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C1431	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C1450	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C1451	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C1460	1-164-005-11	CERAMIC CHIP	0.47µF		25V
C1461	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C1462	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C1464	1-164-005-11	CERAMIC CHIP	0.47µF		25V
C1465	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C1466	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C1467	1-126-935-11	ELECT	470µF	20%	16V
C1468	1-126-396-11	ELECT CHIP	47µF	20%	16V
C1469	1-126-396-11	ELECT CHIP	47µF	20%	16V
C2300	1-163-222-11	CERAMIC CHIP	5PF	0.25PF	50V
C2310	1-126-396-11	ELECT CHIP	47µF	20%	16V
C2311	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C2315	1-163-224-11	CERAMIC CHIP	7PF	0.5PF	50V
C2330	1-163-092-00	CERAMIC CHIP	9PF	0.25PF	50V
C2351	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C2352	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C2353	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C2361	1-126-396-11	ELECT CHIP	47µF	20%	16V
C2362	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C2363	1-126-396-11	ELECT CHIP	47µF	20%	16V
C2364	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C2383	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C2384	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C2385	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C2386	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C2387	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C2388	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C2389	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C2390	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C3301	1-126-394-11	ELECT CHIP	10µF	20%	16V
C3302	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C3303	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C3304	1-163-257-11	CERAMIC CHIP	180PF	5%	50V
C3305	1-163-251-11	CERAMIC CHIP	100PF	5%	50V

Ref.No.	Part No.	Description			Remark
C3306	1-163-257-11	CERAMIC CHIP	180PF	5%	50V
C3307	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C3308	1-164-346-11	CERAMIC CHIP	1µF		16V
C3309	1-126-390-11	ELECT CHIP	22µF	20%	6.3V
C3311	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C3312	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C3313	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
C3314	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C3316	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C3332	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C3333	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C3339	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C3341	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C3342	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C3344	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C3350	1-164-005-11	CERAMIC CHIP	0.47µF		25V
C3402	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C3403	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C3405	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C3406	1-164-182-11	CERAMIC CHIP	0.0033µF	10%	50V
C3407	1-164-344-11	CERAMIC CHIP	0.068µF	10%	25V
C3408	1-126-394-11	ELECT CHIP	10µF	20%	16V
C3410	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C3411	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C3412	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C3432	1-163-035-00	CERAMIC CHIP	0.047µF		50V
C3433	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C4300	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C4302	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C4303	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C4350	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C4351	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C4352	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C4353	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C4354	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C4355	1-126-396-11	ELECT CHIP	47µF	20%	16V

<CONNECTOR>

CN301	1-764-334-11	PLUG, CONNECTOR 11P	
CN302	* 1-564-509-11	PLUG, CONNECTOR 6P	
CN303	* 1-564-510-11	PLUG, CONNECTOR 7P	
CN304	* 1-564-513-11	PLUG, CONNECTOR 10P	
CN307	* 1-564-512-11	PLUG, CONNECTOR 9P	
CN308	* 1-564-512-11	PLUG, CONNECTOR 9P	
CN411	* 1-506-611-11	PIN, CONNECTOR 8P	
CN412	* 1-506-611-11	PIN, CONNECTOR 8P	
CN421	* 1-779-070-21	PIN, CONNECTOR 12P	
CN422	* 1-779-070-21	PIN, CONNECTOR 12P	

<DIODE>

D1400	8-719-073-01	DIODE MA111-(K8).S0
D1401	8-719-073-01	DIODE MA111-(K8).S0
D1402	8-719-073-01	DIODE MA111-(K8).S0
D1403	8-719-073-01	DIODE MA111-(K8).S0
D1404	8-719-037-17	DIODE RD10SB3-T1
D3301	8-719-016-74	DIODE 1SS352
D3302	8-719-016-74	DIODE 1SS352
D3307	8-719-800-76	DIODE 1SS226
D3308	8-719-800-76	DIODE 1SS226
D4401	8-719-158-09	DIODE RD4.7SB2

Ref.No.	Part No.	Description	Remark
	<IC>		
IC300	8-759-011-65	IC MC74HC4053F	
IC301	8-759-011-65	IC MC74HC4053F	
IC302	8-759-011-65	IC MC74HC4053F	
IC303	8-759-981-48	IC TL082M	
IC304	8-759-981-48	IC TL082M	
IC305	8-759-981-48	IC TL082M	
IC306	8-752-054-80	IC CXA1521M	
IC307	8-752-054-80	IC CXA1521M	
IC308	8-752-054-80	IC CXA1521M	
IC400	8-752-053-21	IC CXA1211M	
IC401	8-752-053-21	IC CXA1211M	
IC1300	8-759-011-65	IC MC74HC4053F	
IC1302	8-759-011-65	IC MC74HC4053F	
IC1303	8-759-011-65	IC MC74HC4053F	
IC1304	8-759-011-65	IC MC74HC4053F	
IC1305	8-759-981-48	IC TL082M	
IC1306	8-759-981-48	IC TL082M	
IC1307	8-759-981-48	IC TL082M	
IC1308	8-759-011-65	IC MC74HC4053F	
IC1309	8-759-011-65	IC MC74HC4053F	
IC1400	8-759-038-15	IC MC74HC4538AF	
IC1401	8-752-067-05	IC CXA1739S	
IC2380	8-759-523-02	IC TC74HC4053AFT(EL)	
IC2381	8-759-523-02	IC TC74HC4053AFT(EL)	
IC2382	8-759-988-13	IC LM393PS	
IC2383	8-759-083-94	IC TC7W74FU	
IC3301	8-759-523-02	IC TC74HC4053AFT(EL)	
IC3400	8-759-424-13	IC MC74HC00AFEL	
IC3401	8-759-032-14	IC MC74HC08AF	
IC3403	8-759-328-12	IC Z8622812PSC	
IC3404	8-759-527-74	IC M24C02-MN6T	
IC3406	8-759-084-79	IC TC7S14F	
IC3407	8-759-242-76	IC TC7W08F	
IC4300	8-752-072-94	IC CXA1875AM-T4	
IC4301	8-752-072-94	IC CXA1875AM-T4	
IC4302	8-752-072-94	IC CXA1875AM-T4	
IC4350	8-752-072-94	IC CXA1875AM-T4	
IC4351	8-759-482-47	IC M62399FP-TE2	
IC4352	8-759-482-47	IC M62399FP-TE2	
	<COIL>		
L300	1-406-665-11	CHOKE 100µH	
	<TRANSISTOR>		
Q300	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q301	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q302	8-729-920-59	TRANSISTOR IMX2-T109	
Q303	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q304	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q330	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q331	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q332	8-729-920-59	TRANSISTOR IMX2-T109	
Q333	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q334	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q365	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q366	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q367	8-729-920-59	TRANSISTOR IMX2-T109	
Q368	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q369	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q450	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q451	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q452	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q453	8-729-112-65	TRANSISTOR 2SA1462-T1Y33	
Q460	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q461	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q462	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q463	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q464	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q465	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR	
Q466	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR	
Q485	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q486	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q487	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q1300	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q1301	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q1302	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1303	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1304	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1305	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR	
Q1320	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q1321	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q1322	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1323	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1340	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q1341	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q1342	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1343	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1400	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q1401	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1402	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR	
Q1410	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q1411	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1412	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q1413	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q1414	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1420	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q1421	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1422	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q1423	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q1424	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1430	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q1431	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1432	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q1433	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q1434	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1460	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1461	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1462	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q1463	8-729-900-53	TRANSISTOR DTC114EK	
Q2300	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q2301	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q2302	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q2303	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q2315	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q2316	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q2317	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q2318	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q2330	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q2331	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q2332	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q2333	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q2380	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q2381	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q2382	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q2383	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q3301	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR	
Q3302	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR	

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Ref.No.	Part No.	Description			Remark
Q3303	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR			
Q3304	8-729-920-59	TRANSISTOR IMX2-T109			
Q3305	8-729-920-59	TRANSISTOR IMX2-T109			
Q3306	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q3307	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR			
Q3308	8-729-107-31	TRANSISTOR 2SC3545-T43			
Q3309	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q3310	8-729-925-42	TRANSISTOR IMT2			
Q3311	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q3312	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR			
Q3313	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q3314	8-729-920-59	TRANSISTOR IMX2-T109			
Q3315	8-729-112-65	TRANSISTOR 2SA1462-Y33			
Q3316	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q3317	8-729-925-42	TRANSISTOR IMT2			
Q3318	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR			
Q3319	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q3402	1-801-806-11	TRANSISTOR DTC144EKA-T146			
	<RESISTOR>				
R300	1-216-049-91	RES,CHIP	1K	5%	1/10W
R301	1-216-025-91	RES,CHIP	100	5%	1/10W
R302	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W
R303	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
R305	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R306	1-216-025-91	RES,CHIP	100	5%	1/10W
R307	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W
R308	1-216-025-91	RES,CHIP	100	5%	1/10W
R309	1-216-049-91	RES,CHIP	1K	5%	1/10W
R310	1-216-049-91	RES,CHIP	1K	5%	1/10W
R311	1-216-029-00	RES,CHIP	150	5%	1/10W
R312	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
R313	1-218-776-11	METAL CHIP	1M	0.50%	1/10W
R314	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
R315	1-218-764-11	METAL CHIP	330K	0.50%	1/10W
R316	1-216-033-00	RES,CHIP	220	5%	1/10W
R317	1-216-025-91	RES,CHIP	100	5%	1/10W
R318	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
R319	1-216-685-11	METAL CHIP	27K	0.50%	1/10W
R320	1-216-679-11	METAL CHIP	15K	0.50%	1/10W
R321	1-216-089-91	RES,CHIP	47K	5%	1/10W
R322	1-216-681-11	METAL CHIP	18K	0.50%	1/10W
R323	1-216-025-91	RES,CHIP	100	5%	1/10W
R324	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R325	1-216-037-00	RES,CHIP	330	5%	1/10W
R330	1-216-049-91	RES,CHIP	1K	5%	1/10W
R331	1-216-025-91	RES,CHIP	100	5%	1/10W
R332	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W
R333	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
R335	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R336	1-216-025-91	RES,CHIP	100	5%	1/10W
R337	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W
R338	1-216-025-91	RES,CHIP	100	5%	1/10W
R339	1-216-049-91	RES,CHIP	1K	5%	1/10W
R340	1-216-049-91	RES,CHIP	1K	5%	1/10W
R341	1-216-025-91	RES,CHIP	100	5%	1/10W
R342	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
R343	1-218-776-11	METAL CHIP	1M	0.50%	1/10W
R344	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
R345	1-218-770-11	METAL CHIP	560K	0.50%	1/10W
R346	1-216-033-00	RES,CHIP	220	5%	1/10W
R347	1-216-025-91	RES,CHIP	100	5%	1/10W
R348	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
R349	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
R350	1-218-759-11	METAL CHIP	200K	0.50%	1/10W
R351	1-216-693-11	METAL CHIP	56K	0.50%	1/10W
R353	1-216-089-91	RES,CHIP	47K	5%	1/10W
R354	1-216-025-91	RES,CHIP	100	5%	1/10W
R355	1-216-057-91	RES,CHIP	2.2K	5%	1/10W
R356	1-216-033-00	RES,CHIP	220	5%	1/10W
R365	1-216-049-91	RES,CHIP	1K	5%	1/10W
R366	1-216-025-91	RES,CHIP	100	5%	1/10W
R367	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W
R368	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
R370	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R371	1-216-025-91	RES,CHIP	100	5%	1/10W
R372	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W
R373	1-216-025-91	RES,CHIP	100	5%	1/10W
R374	1-216-049-91	RES,CHIP	1K	5%	1/10W
R375	1-216-049-91	RES,CHIP	1K	5%	1/10W
R376	1-216-025-91	RES,CHIP	100	5%	1/10W
R377	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
R378	1-218-776-11	METAL CHIP	1M	0.50%	1/10W
R379	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
R380	1-218-770-11	METAL CHIP	560K	0.50%	1/10W
R381	1-216-033-00	RES,CHIP	220	5%	1/10W
R382	1-216-025-91	RES,CHIP	100	5%	1/10W
R383	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
R384	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
R385	1-218-759-11	METAL CHIP	200K	0.50%	1/10W
R386	1-216-693-11	METAL CHIP	56K	0.50%	1/10W
R388	1-216-089-91	RES,CHIP	47K	5%	1/10W
R389	1-216-025-91	RES,CHIP	100	5%	1/10W
R390	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R391	1-216-033-00	RES,CHIP	220	5%	1/10W
R450	1-216-025-91	RES,CHIP	100	5%	1/10W
R451	1-216-049-91	RES,CHIP	1K	5%	1/10W
R452	1-216-647-11	METAL CHIP	680	0.50%	1/10W
R453	1-216-649-11	METAL CHIP	820	0.50%	1/10W
R454	1-216-645-11	METAL CHIP	560	0.50%	1/10W
R455	1-216-647-11	METAL CHIP	680	0.50%	1/10W
R456	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R457	1-216-029-91	RES,CHIP	150	5%	1/10W
R458	1-216-025-91	RES,CHIP	100	5%	1/10W
R459	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R460	1-216-671-11	METAL CHIP	6.8K	0.50%	1/10W
R461	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R462	1-216-671-11	METAL CHIP	6.8K	0.50%	1/10W
R463	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R464	1-216-660-11	METAL CHIP	2.4K	0.50%	1/10W
R465	1-216-668-11	METAL CHIP	5.1K	0.50%	1/10W
R466	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
R467	1-216-649-11	METAL CHIP	820	0.50%	1/10W
R468	1-216-045-00	RES,CHIP	680	5%	1/10W
R469	1-216-045-00	RES,CHIP	680	5%	1/10W
R470	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R471	1-216-061-00	RES,CHIP	3.3K	5%	1/10W
R472	1-216-025-91	RES,CHIP	100	5%	1/10W
R473	1-216-049-91	RES,CHIP	1K	5%	1/10W
R474	1-216-647-11	METAL CHIP	680	0.50%	1/10W
R475	1-216-647-11	METAL CHIP	680	0.50%	1/10W
R476	1-216-647-11	METAL CHIP	680	0.50%	1/10W
R477	1-216-645-11	METAL CHIP	560	0.50%	1/10W
R478	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R479	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R480	1-216-025-91	RES,CHIP	100	5%	1/10W
R481	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R482	1-216-025-91	RES,CHIP	100	5%	1/10W
R483	1-216-645-11	METAL CHIP	560	0.50%	1/10W
R484	1-216-013-91	RES,CHIP	33	5%	1/10W

Ref.No.	Part No.	Description			Remark
R485	1-216-671-11	METAL CHIP	6.8K	0.50%	1/10W
R486	1-216-661-11	METAL CHIP	2.7K	0.50%	1/10W
R487	1-216-671-11	METAL CHIP	6.8K	0.50%	1/10W
R488	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R489	1-216-025-91	RES,CHIP	100	5%	1/10W
R490	1-216-049-91	RES,CHIP	1K	5%	1/10W
R491	1-216-647-11	METAL CHIP	680	0.50%	1/10W
R492	1-216-647-11	METAL CHIP	680	0.50%	1/10W
R493	1-216-647-11	METAL CHIP	680	0.50%	1/10W
R494	1-216-645-11	METAL CHIP	560	0.50%	1/10W
R495	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R497	1-216-025-91	RES,CHIP	100	5%	1/10W
R498	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R499	1-216-029-91	RES,CHIP	150	5%	1/10W
R1300	1-216-025-91	RES,CHIP	100	5%	1/10W
R1301	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
R1302	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W
R1303	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R1305	1-216-025-91	RES,CHIP	100	5%	1/10W
R1306	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W
R1307	1-216-025-91	RES,CHIP	100	5%	1/10W
R1308	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1309	1-218-776-11	METAL CHIP	1M	0.50%	1/10W
R1310	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
R1311	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1312	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1313	1-216-025-91	RES,CHIP	100	5%	1/10W
R1314	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R1315	1-216-295-91	SHORT	0		
R1316	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
R1317	1-216-689-11	METAL CHIP	39K	0.50%	1/10W
R1318	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R1319	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R1320	1-216-025-91	RES,CHIP	100	5%	1/10W
R1321	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
R1322	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W
R1323	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R1325	1-216-025-91	RES,CHIP	100	5%	1/10W
R1326	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W
R1327	1-216-025-91	RES,CHIP	100	5%	1/10W
R1328	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1329	1-218-776-11	METAL CHIP	1M	0.50%	1/10W
R1330	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
R1331	1-216-025-91	RES,CHIP	100	5%	1/10W
R1332	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R1333	1-216-295-91	SHORT	0		
R1334	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1335	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1340	1-216-025-91	RES,CHIP	100	5%	1/10W
R1341	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
R1342	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W
R1343	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R1345	1-216-025-91	RES,CHIP	100	5%	1/10W
R1346	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W
R1347	1-216-025-91	RES,CHIP	100	5%	1/10W
R1348	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1349	1-218-776-11	METAL CHIP	1M	0.50%	1/10W
R1350	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
R1351	1-216-025-91	RES,CHIP	100	5%	1/10W
R1352	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R1353	1-216-295-91	SHORT	0		
R1354	1-216-685-11	METAL CHIP	27K	0.50%	1/10W
R1355	1-216-691-11	METAL CHIP	47K	0.50%	1/10W
R1357	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1358	1-216-073-00	RES,CHIP	10K	5%	1/10W

Ref.No.	Part No.	Description			Remark
R1400	1-216-025-91	RES,CHIP	100	5%	1/10W
R1401	1-216-295-91	SHORT	0		
R1402	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1405	1-216-025-91	RES,CHIP	100	5%	1/10W
R1406	1-216-025-91	RES,CHIP	100	5%	1/10W
R1407	1-216-025-91	RES,CHIP	100	5%	1/10W
R1408	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1409	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1410	1-216-025-91	RES,CHIP	100	5%	1/10W
R1411	1-216-085-00	RES,CHIP	33K	5%	1/10W
R1412	1-216-089-91	RES,CHIP	47K	5%	1/10W
R1413	1-216-085-00	RES,CHIP	33K	5%	1/10W
R1414	1-216-085-00	RES,CHIP	33K	5%	1/10W
R1415	1-216-113-00	RES,CHIP	470K	5%	1/10W
R1416	1-216-025-91	RES,CHIP	100	5%	1/10W
R1417	1-216-063-91	RES,CHIP	3.9K	5%	1/10W
R1418	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1419	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1420	1-216-095-00	RES,CHIP	82K	5%	1/10W
R1421	1-216-041-00	RES,CHIP	470	5%	1/10W
R1422	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1423	1-216-041-00	RES,CHIP	470	5%	1/10W
R1424	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1425	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R1426	1-216-025-91	RES,CHIP	100	5%	1/10W
R1427	1-216-063-91	RES,CHIP	3.9K	5%	1/10W
R1428	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1429	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1430	1-216-095-00	RES,CHIP	82K	5%	1/10W
R1431	1-216-041-00	RES,CHIP	470	5%	1/10W
R1432	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1433	1-216-041-00	RES,CHIP	470	5%	1/10W
R1434	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1435	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R1436	1-216-025-91	RES,CHIP	100	5%	1/10W
R1437	1-216-063-91	RES,CHIP	3.9K	5%	1/10W
R1438	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1439	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1440	1-216-095-00	RES,CHIP	82K	5%	1/10W
R1441	1-216-041-00	RES,CHIP	470	5%	1/10W
R1442	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1443	1-216-041-00	RES,CHIP	470	5%	1/10W
R1444	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1445	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R1446	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1447	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1450	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
R1451	1-216-089-91	RES,CHIP	47K	5%	1/10W
R1452	1-216-687-11	METAL CHIP	33K	0.50%	1/10W
R1453	1-216-687-11	METAL CHIP	33K	0.50%	1/10W
R1454	1-216-687-11	METAL CHIP	33K	0.50%	1/10W
R1455	1-216-085-00	RES,CHIP	33K	5%	1/10W
R1456	1-216-085-00	RES,CHIP	33K	5%	1/10W
R1457	1-216-085-00	RES,CHIP	33K	5%	1/10W
R1460	1-216-113-00	RES,CHIP	470K	5%	1/10W
R1461	1-216-085-00	RES,CHIP	33K	5%	1/10W
R1464	1-216-689-11	METAL CHIP	39K	0.50%	1/10W
R1466	1-216-113-00	RES,CHIP	470K	5%	1/10W
R1467	1-216-083-00	RES,CHIP	27K	5%	1/10W
R1469	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R1470	1-216-671-11	METAL CHIP	6.8K	0.50%	1/10W
R1471	1-216-689-11	METAL CHIP	39K	0.50%	1/10W
R1472	1-218-768-11	METAL CHIP	470K	0.50%	1/10W
R1473	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1480	1-216-069-00	RES,CHIP	6.8K	5%	1/10W

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Ref.No.	Part No.	Description			Remark
R1481	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R1482	1-216-061-00	RES,CHIP	3.3K	5%	1/10W
R1483	1-216-089-91	RES,CHIP	47K	5%	1/10W
R1484	1-216-085-00	RES,CHIP	33K	5%	1/10W
R1485	1-216-073-00	RES,CHIP	10K	5%	1/10W
R2300	1-216-025-91	RES,CHIP	100	5%	1/10W
R2301	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R2302	1-216-009-91	RES,CHIP	22	5%	1/10W
R2303	1-216-035-00	RES,CHIP	270	5%	1/10W
R2304	1-216-645-11	METAL CHIP	560	0.50%	1/10W
R2305	1-216-643-11	METAL CHIP	470	0.50%	1/10W
R2307	1-216-025-91	RES,CHIP	100	5%	1/10W
R2308	1-216-055-00	RES,CHIP	1.8K	5%	1/10W
R2309	1-216-025-91	RES,CHIP	100	5%	1/10W
R2310	1-216-049-91	RES,CHIP	1K	5%	1/10W
R2313	1-216-295-91	RES,CHIP	0		
R2314	1-216-615-91	METAL CHIP	33	0.5%	1/10W
R2315	1-216-025-91	RES,CHIP	100	5%	1/10W
R2316	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R2317	1-216-009-91	RES,CHIP	22	5%	1/10W
R2318	1-216-035-00	RES,CHIP	270	5%	1/10W
R2319	1-216-645-11	METAL CHIP	560	0.50%	1/10W
R2320	1-216-643-11	METAL CHIP	470	0.50%	1/10W
R2322	1-216-025-91	RES,CHIP	100	5%	1/10W
R2323	1-216-055-00	RES,CHIP	1.8K	5%	1/10W
R2324	1-216-025-91	RES,CHIP	100	5%	1/10W
R2325	1-216-049-91	RES,CHIP	1K	5%	1/10W
R2327	1-216-295-91	RES,CHIP	0		
R2329	1-216-615-91	METAL CHIP	33	0.5%	1/10W
R2330	1-216-025-91	RES,CHIP	100	5%	1/10W
R2331	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R2332	1-216-009-91	RES,CHIP	22	5%	1/10W
R2333	1-216-035-00	RES,CHIP	270	5%	1/10W
R2334	1-216-645-11	METAL CHIP	560	0.50%	1/10W
R2335	1-216-643-11	METAL CHIP	470	0.50%	1/10W
R2337	1-216-025-91	RES,CHIP	100	5%	1/10W
R2338	1-216-055-00	RES,CHIP	1.8K	5%	1/10W
R2339	1-216-025-91	RES,CHIP	100	5%	1/10W
R2340	1-216-049-91	RES,CHIP	1K	5%	1/10W
R2342	1-216-295-91	RES,CHIP	0		
R2344	1-216-615-91	METAL CHIP	33	0.5%	1/10W
R2380	1-216-025-91	RES,CHIP	100	5%	1/10W
R2381	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R2382	1-216-025-91	RES,CHIP	100	5%	1/10W
R2383	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R2384	1-216-025-91	RES,CHIP	100	5%	1/10W
R2385	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R2386	1-216-025-91	RES,CHIP	100	5%	1/10W
R2387	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R2388	1-216-073-00	RES,CHIP	10K	5%	1/10W
R2389	1-216-073-00	RES,CHIP	10K	5%	1/10W
R2390	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R2391	1-216-073-00	RES,CHIP	10K	5%	1/10W
R2392	1-216-073-00	RES,CHIP	10K	5%	1/10W
R2393	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R3299	1-216-025-91	RES,CHIP	100	5%	1/10W
R3300	1-216-025-91	RES,CHIP	100	5%	1/10W
R3301	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
R3302	1-216-079-00	RES,CHIP	18K	5%	1/10W
R3303	1-216-091-00	RES,CHIP	56K	5%	1/10W
R3304	1-216-013-00	RES,CHIP	33	5%	1/10W
R3305	1-216-013-00	RES,CHIP	33	5%	1/10W
R3306	1-216-013-00	RES,CHIP	33	5%	1/10W
R3307	1-216-049-91	RES,CHIP	1K	5%	1/10W
R3308	1-216-049-91	RES,CHIP	1K	5%	1/10W
R3309	1-216-049-91	RES,CHIP	1K	5%	1/10W
R3310	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R3311	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R3312	1-216-049-91	RES,CHIP	1K	5%	1/10W
R3313	1-216-063-91	RES,CHIP	3.9K	5%	1/10W
R3314	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
R3315	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R3316	1-216-687-11	METAL CHIP	33K	0.50%	1/10W
R3317	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
R3318	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R3319	1-216-083-00	RES,CHIP	27K	5%	1/10W
R3320	1-216-037-00	RES,CHIP	330	5%	1/10W
R3321	1-216-679-11	METAL CHIP	15K	0.50%	1/10W
R3322	1-216-097-91	RES,CHIP	100K	5%	1/10W
R3323	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W
R3324	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W
R3325	1-216-041-00	RES,CHIP	470	5%	1/10W
R3326	1-216-029-00	RES,CHIP	150	5%	1/10W
R3327	1-216-111-00	RES,CHIP	390K	5%	1/10W
R3328	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W
R3329	1-216-681-11	METAL CHIP	18K	0.50%	1/10W
R3330	1-216-676-11	METAL CHIP	11K	0.50%	1/10W
R3331	1-216-059-00	RES,CHIP	2.7K	5%	1/10W
R3332	1-216-075-00	RES,CHIP	12K	5%	1/10W
R3333	1-216-669-11	METAL CHIP	5.6K	0.50%	1/10W
R3334	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W
R3335	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W
R3336	1-216-640-11	METAL CHIP	360	0.50%	1/10W
R3337	1-216-069-00	RES,CHIP	6.8K	5%	1/10W
R3338	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R3339	1-216-037-00	RES,CHIP	330	5%	1/10W
R3340	1-216-693-11	METAL CHIP	56K	0.50%	1/10W
R3341	1-218-768-11	METAL CHIP	470K	0.50%	1/10W
R3342	1-216-097-91	RES,CHIP	100K	5%	1/10W
R3343	1-216-696-11	METAL CHIP	75K	0.50%	1/10W
R3344	1-216-661-11	METAL CHIP	2.7K	0.50%	1/10W
R3345	1-216-073-00	RES,CHIP	10K	5%	1/10W
R3346	1-216-099-00	RES,CHIP	120K	5%	1/10W
R3347	1-216-687-11	METAL CHIP	33K	0.50%	1/10W
R3381	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
R3382	1-216-031-00	RES,CHIP	180	5%	1/10W
R3385	1-216-049-91	RES,CHIP	1K	5%	1/10W
R3400	1-216-097-91	RES,CHIP	100K	5%	1/10W
R3401	1-216-097-91	RES,CHIP	100K	5%	1/10W
R3402	1-216-097-91	RES,CHIP	100K	5%	1/10W
R3403	1-216-097-91	RES,CHIP	100K	5%	1/10W
R3410	1-216-049-91	RES,CHIP	1K	5%	1/10W
R3411	1-216-025-91	RES,CHIP	100	5%	1/10W
R3412	1-216-025-91	RES,CHIP	100	5%	1/10W
R3413	1-216-025-91	RES,CHIP	100	5%	1/10W
R3414	1-216-049-91	RES,CHIP	1K	5%	1/10W
R3416	1-216-049-91	RES,CHIP	1K	5%	1/10W
R3417	1-216-049-91	RES,CHIP	1K	5%	1/10W
R3418	1-216-069-00	RES,CHIP	6.8K	5%	1/10W
R3419	1-216-049-91	RES,CHIP	1K	5%	1/10W
R3421	1-216-025-91	RES,CHIP	100	5%	1/10W
R3422	1-216-025-91	RES,CHIP	100	5%	1/10W
R3423	1-216-025-91	RES,CHIP	100	5%	1/10W
R3424	1-216-073-00	RES,CHIP	10K	5%	1/10W
R3425	1-216-073-00	RES,CHIP	10K	5%	1/10W
R3426	1-216-025-91	RES,CHIP	100	5%	1/10W
R3427	1-216-025-91	RES,CHIP	100	5%	1/10W
R3428	1-216-025-91	RES,CHIP	100	5%	1/10W
R3429	1-216-025-91	RES,CHIP	100	5%	1/10W
R3430	1-216-049-91	RES,CHIP	1K	5%	1/10W

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Ref.No.	Part No.	Description			Remark
R3431	1-216-295-91	SHORT	0		
R3433	1-216-025-91	RES,CHIP	100	5%	1/10W
R3434	1-216-025-91	RES,CHIP	100	5%	1/10W
R4300	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4301	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4302	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4303	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4304	1-216-033-00	RES,CHIP	220	5%	1/10W
R4305	1-216-033-00	RES,CHIP	220	5%	1/10W
R4306	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4307	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4308	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4309	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4310	1-216-033-00	RES,CHIP	220	5%	1/10W
R4311	1-216-033-00	RES,CHIP	220	5%	1/10W
R4312	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4313	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4314	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4315	1-216-049-91	RES,CHIP	1K	5%	1/10W
R4316	1-216-033-00	RES,CHIP	220	5%	1/10W
R4317	1-216-033-00	RES,CHIP	220	5%	1/10W
R4320	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R4417	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4420	1-216-033-00	RES,CHIP	220	5%	1/10W
R4423	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4426	1-216-033-00	RES,CHIP	220	5%	1/10W
R4434	1-216-049-91	RES,CHIP	1K	5%	1/10W
R4435	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4436	1-216-677-11	METAL CHIP	12K	0.50%	1/10W
R4437	1-216-668-11	METAL CHIP	5.1K	0.50%	1/10W
R4438	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4439	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4440	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4441	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4442	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4443	1-216-033-00	RES,CHIP	220	5%	1/10W
R4444	1-216-033-00	RES,CHIP	220	5%	1/10W
R4445	1-216-071-00	RES,CHIP	8.2K	5%	1/10W
R4446	1-216-131-11	RES,CHIP	2.7M	5%	1/10W
R4447	1-216-071-00	RES,CHIP	8.2K	5%	1/10W
R4448	1-216-071-00	RES,CHIP	8.2K	5%	1/10W
R4449	1-216-131-11	RES,CHIP	2.7M	5%	1/10W
R4450	1-216-131-11	RES,CHIP	2.7M	5%	1/10W
R4451	1-216-071-00	RES,CHIP	8.2K	5%	1/10W
R4452	1-216-131-11	RES,CHIP	2.7M	5%	1/10W
R4453	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4454	1-216-033-00	RES,CHIP	220	5%	1/10W
R4455	1-216-033-00	RES,CHIP	220	5%	1/10W
R4456	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4457	1-216-071-00	RES,CHIP	8.2K	5%	1/10W
R4458	1-216-061-00	RES,CHIP	3.3K	5%	1/10W
R4459	1-216-131-11	RES,CHIP	2.7M	5%	1/10W
R4460	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R4461	1-216-071-00	RES,CHIP	8.2K	5%	1/10W
R4462	1-216-131-11	RES,CHIP	2.7M	5%	1/10W
R4471	1-216-025-91	RES,CHIP	100	5%	1/10W
R4472	1-216-025-91	RES,CHIP	100	5%	1/10W

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Ref.No.	Part No.	Description			Remark
	* A-1131-463-A	B1 MOUNT			
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		<CAPACITOR>			
C401	1-126-396-11	ELECT CHIP	47µF	20%	16V
C402	1-126-396-11	ELECT CHIP	47µF	20%	16V
C403	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C404	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C407	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C410	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C411	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C412	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C502	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C503	1-163-031-11	CERAMIC CHIP	0.01µF		50V
		<CONNECTOR>			
CN401	* 1-568-015-11	SOCKET, CONNECTOR 8P			
CN402	* 1-568-015-11	SOCKET, CONNECTOR 8P			
		<DELAY LINE>			
DL400	1-411-450-11	DELAY LINE			
DL401	1-411-450-11	DELAY LINE			
DL402	1-234-455-21	DELAY LINE			
DL403	1-234-455-21	DELAY LINE			
DL404	1-411-451-11	DELAY LINE			
DL405	1-234-456-21	DELAY LINE			
DL501	1-402-770-11	DELAY LINE			
DL502	1-416-476-21	DELAY LINE			
DL503	1-402-770-11	DELAY LINE			
DL504	1-416-476-21	DELAY LINE			
		<IC>			
IC410	8-759-011-65	IC MC74HC4053F			
IC450	8-752-053-21	IC CXA1211M			
IC501	8-759-011-65	IC MC74HC4053F			
		<TRANSISTOR>			
Q400	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q401	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q402	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q403	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q404	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR			
Q405	8-729-112-65	TRANSISTOR 2SA1462-T1Y33			
Q406	8-729-112-65	TRANSISTOR 2SA1462-T1Y33			
Q407	8-729-112-65	TRANSISTOR 2SA1462-T1Y33			
Q408	8-729-107-31	TRANSISTOR 2SC3545-T43			
Q409	8-729-107-31	TRANSISTOR 2SC3545-T43			
Q410	1-801-806-11	TRANSISTOR DTC144EKA-T146			
Q411	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q412	8-729-107-31	TRANSISTOR 2SC3545-T43			
Q413	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q414	8-729-107-31	TRANSISTOR 2SC3545-T43			
Q501	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR			
Q502	8-729-107-31	TRANSISTOR 2SC3545-T43			
Q503	8-729-112-65	TRANSISTOR 2SA1462-T1Y33			
Q504	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR			
Q505	8-729-107-31	TRANSISTOR 2SC3545-T43			
Q506	8-729-112-65	TRANSISTOR 2SA1462-T1Y33			
Q511	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q512	8-729-107-31	TRANSISTOR 2SC3545-T43			
Q513	8-729-112-65	TRANSISTOR 2SA1462-T1Y33			
Q514	8-729-107-31	TRANSISTOR 2SC3545-T43			

B1 B2

Ref.No.	Part No.	Description			Remark
Q515	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q516	8-729-107-31	TRANSISTOR 2SC3545-T43			
Q517	8-729-112-65	TRANSISTOR 2SA1462-T1Y33			
Q518	8-729-107-31	TRANSISTOR 2SC3545-T43			
	<RESISTOR>				
R400	1-216-025-91	RES,CHIP	100	5%	1/10W
R401	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R402	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R403	1-216-025-91	RES,CHIP	100	5%	1/10W
R404	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R405	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R406	1-216-025-91	RES,CHIP	100	5%	1/10W
R407	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R408	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R409	1-216-089-91	RES,CHIP	47K	5%	1/10W
R410	1-216-025-91	RES,CHIP	100	5%	1/10W
R411	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R412	1-216-643-11	METAL CHIP	470	0.50%	1/10W
R413	1-216-025-91	RES,CHIP	100	5%	1/10W
R414	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R415	1-216-643-11	METAL CHIP	470	0.50%	1/10W
R416	1-216-025-91	RES,CHIP	100	5%	1/10W
R417	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R418	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R419	1-216-085-00	RES,CHIP	33K	5%	1/10W
R420	1-216-025-91	RES,CHIP	100	5%	1/10W
R421	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R422	1-216-025-91	RES,CHIP	100	5%	1/10W
R423	1-216-025-91	RES,CHIP	100	5%	1/10W
R424	1-216-643-11	METAL CHIP	470	0.50%	1/10W
R425	1-216-643-11	METAL CHIP	470	0.50%	1/10W
R426	1-216-025-91	RES,CHIP	100	5%	1/10W
R427	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R428	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R429	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R430	1-216-025-91	RES,CHIP	100	5%	1/10W
R431	1-216-025-91	RES,CHIP	100	5%	1/10W
R432	1-216-061-00	RES,CHIP	3.3K	5%	1/10W
R433	1-216-075-00	RES,CHIP	12K	5%	1/10W
R434	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R435	1-216-051-00	RES,CHIP	1.2K	5%	1/10W
R436	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R437	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R438	1-216-073-00	RES,CHIP	10K	5%	1/10W
R439	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R440	1-216-049-91	RES,CHIP	1K	5%	1/10W
R441	1-216-295-91	SHORT	0		
R442	1-216-025-91	RES,CHIP	100	5%	1/10W
R443	1-216-025-91	RES,CHIP	100	5%	1/10W
R444	1-216-025-91	RES,CHIP	100	5%	1/10W
R501	1-216-025-91	RES,CHIP	100	5%	1/10W
R502	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R503	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R504	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R505	1-216-025-91	RES,CHIP	100	5%	1/10W
R506	1-216-025-91	RES,CHIP	100	5%	1/10W
R507	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R508	1-216-025-91	RES,CHIP	100	5%	1/10W
R509	1-216-037-00	RES,CHIP	330	5%	1/10W
R510	1-216-631-11	METAL CHIP	150	0.50%	1/10W
R511	1-216-631-11	METAL CHIP	150	0.50%	1/10W
R512	1-216-025-91	RES,CHIP	100	5%	1/10W
R513	1-216-025-91	RES,CHIP	100	5%	1/10W
R514	1-216-057-00	RES,CHIP	2.2K	5%	1/10W

Ref.No.	Part No.	Description			Remark
R515	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R516	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R517	1-216-025-91	RES,CHIP	100	5%	1/10W
R518	1-216-025-91	RES,CHIP	100	5%	1/10W
R519	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R520	1-216-025-91	RES,CHIP	100	5%	1/10W
R521	1-216-037-00	RES,CHIP	330	5%	1/10W
R522	1-216-631-11	METAL CHIP	150	0.50%	1/10W
R523	1-216-631-11	METAL CHIP	150	0.50%	1/10W
R524	1-216-025-91	RES,CHIP	100	5%	1/10W
R531	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R532	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R533	1-216-061-00	RES,CHIP	3.3K	5%	1/10W
R534	1-216-069-00	RES,CHIP	6.8K	5%	1/10W
R535	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R536	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R537	1-216-025-91	RES,CHIP	100	5%	1/10W
R538	1-216-051-00	RES,CHIP	1.2K	5%	1/10W
R541	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R542	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R543	1-216-061-00	RES,CHIP	3.3K	5%	1/10W
R544	1-216-069-00	RES,CHIP	6.8K	5%	1/10W
R545	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R546	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R547	1-216-025-91	RES,CHIP	100	5%	1/10W
R548	1-216-051-00	RES,CHIP	1.2K	5%	1/10W

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* A-1131-464-A B2 MOUNT
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<CAPACITOR>

C3901	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C3902	1-164-161-11	CERAMIC CHIP	0.0022µF	10%	50V
C3903	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C3904	1-163-017-00	CERAMIC CHIP	0.0047µF	10%	50V
C3905	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C3906	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C3907	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C3908	1-164-346-11	CERAMIC CHIP	1µF		16V
C3909	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C3910	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C3912	1-163-127-00	CERAMIC CHIP	270PF	5%	50V
C3913	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C3914	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C3915	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C3916	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C3917	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C3918	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C3919	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C3920	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C3921	1-164-489-11	CERAMIC CHIP	0.22µF	10%	16V
C3922	1-164-489-11	CERAMIC CHIP	0.22µF	10%	16V
C3923	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C3924	1-163-031-11	CERAMIC CHIP	0.01µF		50V

<CONNECTOR>

CN3901	* 1-573-896-11	SOCKET, CONNECTOR 12P	
CN3902	* 1-573-896-11	SOCKET, CONNECTOR 12P	

Ref.No.	Part No.	Description	Remark
	<DIODE>		
D3901	8-719-016-74	DIODE 1SS352	
D3902	8-719-016-74	DIODE 1SS352	
D3903	8-719-016-74	DIODE 1SS352	
D3904	8-719-016-74	DIODE 1SS352	
	<IC>		
IC3901	8-759-239-34	IC TC74HC4538AF	
IC3902	8-759-523-02	IC TC74HC4053AFT(EL)	
IC3904	8-759-239-34	IC TC74HC4538AF	
IC3905	8-759-100-96	IC UPC4558G2	
IC3906	8-759-234-20	IC TC7S08F	
IC3907	8-759-035-90	IC SC7S02F	
IC3908	8-759-082-61	IC TC4W53FU	
	<TRANSISTOR>		
Q3901	8-729-027-38	TRANSISTOR DTA144EKA-T146	
Q3902	8-729-027-38	TRANSISTOR DTA144EKA-T146	
Q3903	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR	
Q3905	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR	
Q3906	8-729-027-38	TRANSISTOR DTA144EKA-T146	
Q3907	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q3908	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR	
Q3909	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR	
Q3910	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR	
Q3911	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q3912	8-729-202-38	TRANSISTOR 2SC3326N-A	
Q3913	8-729-202-38	TRANSISTOR 2SC3326N-A	
Q3914	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q3915	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR	
Q3916	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
	<RESISTOR>		
R3901	1-216-025-91	RES,CHIP 100 5% 1/10W	
R3902	1-216-025-91	RES,CHIP 100 5% 1/10W	
R3903	1-216-659-11	METAL CHIP 2.2K 0.50% 1/10W	
R3904	1-216-025-91	RES,CHIP 100 5% 1/10W	
R3905	1-218-754-11	METAL CHIP 120K 0.50% 1/10W	
R3906	1-216-659-11	METAL CHIP 2.2K 0.50% 1/10W	
R3907	1-218-754-11	METAL CHIP 120K 0.50% 1/10W	
R3908	1-216-059-00	RES,CHIP 2.7K 5% 1/10W	
R3909	1-216-659-11	METAL CHIP 2.2K 0.50% 1/10W	
R3910	1-216-699-91	METAL CHIP 100K 0.50% 1/10W	
R3912	1-216-057-00	RES,CHIP 2.2K 5% 1/10W	
R3913	1-216-655-11	METAL CHIP 1.5K 0.50% 1/10W	
R3914	1-216-025-91	RES,CHIP 100 5% 1/10W	
R3915	1-216-674-11	METAL CHIP 9.1K 0.50% 1/10W	
R3916	1-216-025-91	RES,CHIP 100 5% 1/10W	
R3917	1-216-097-91	RES,CHIP 100K 5% 1/10W	
R3918	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R3919	1-216-065-91	RES,CHIP 4.7K 5% 1/10W	
R3920	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R3922	1-216-689-11	METAL CHIP 39K 0.50% 1/10W	
R3923	1-216-025-91	RES,CHIP 100 5% 1/10W	
R3924	1-216-681-11	METAL CHIP 18K 0.50% 1/10W	
R3925	1-216-697-91	METAL CHIP 82K 0.50% 1/10W	
R3926	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R3927	1-216-699-91	METAL CHIP 100K 0.50% 1/10W	
R3928	1-216-025-91	RES,CHIP 100 5% 1/10W	
R3929	1-216-681-11	METAL CHIP 18K 0.50% 1/10W	
R3930	1-216-675-91	METAL CHIP 10K 0.50% 1/10W	
R3931	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R3932	1-216-653-11	METAL CHIP 1.2K 0.50% 1/10W	
R3933	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R3934	1-216-025-91	RES,CHIP 100 5% 1/10W	
R3935	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R3936	1-216-097-91	RES,CHIP 100K 5% 1/10W	
R3937	1-216-025-91	RES,CHIP 100 5% 1/10W	
R3938	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R3939	1-216-097-91	RES,CHIP 100K 5% 1/10W	
R3940	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R3941	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R3942	1-216-081-00	RES,CHIP 22K 5% 1/10W	
R3943	1-216-055-00	RES,CHIP 1.8K 5% 1/10W	
R3944	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R3945	1-216-079-00	RES,CHIP 18K 5% 1/10W	
R3946	1-216-059-00	RES,CHIP 2.7K 5% 1/10W	
R3947	1-216-089-91	RES,CHIP 47K 5% 1/10W	
R3948	1-216-295-91	SHORT 0	
	* A-1136-013-A	BX COMPL **********	
	<CAPACITOR>		
C010	1-128-526-11	ELECT 100µF 20% 16V	
C011	1-163-038-91	CERAMIC CHIP 0.1µF 25V	
C012	1-128-526-11	ELECT 100µF 20% 16V	
C013	1-163-038-91	CERAMIC CHIP 0.1µF 25V	
C014	1-128-526-11	ELECT 100µF 20% 16V	
C015	1-163-038-91	CERAMIC CHIP 0.1µF 25V	
C016	1-163-038-91	CERAMIC CHIP 0.1µF 25V	
C017	1-163-038-91	CERAMIC CHIP 0.1µF 25V	
C018	1-163-038-91	CERAMIC CHIP 0.1µF 25V	
C019	1-163-038-91	CERAMIC CHIP 0.1µF 25V	
C020	1-163-038-91	CERAMIC CHIP 0.1µF 25V	
C021	1-163-038-91	CERAMIC CHIP 0.1µF 25V	
C022	1-163-038-91	CERAMIC CHIP 0.1µF 25V	
C050	1-128-526-11	ELECT 100µF 20% 16V	
C051	1-163-038-91	CERAMIC CHIP 0.1µF 25V	
C052	1-128-526-11	ELECT 100µF 20% 16V	
C053	1-163-038-91	CERAMIC CHIP 0.1µF 25V	
C054	1-128-526-11	ELECT 100µF 20% 16V	
C055	1-163-038-91	CERAMIC CHIP 0.1µF 25V	
C056	1-163-038-91	CERAMIC CHIP 0.1µF 25V	
C057	1-163-038-91	CERAMIC CHIP 0.1µF 25V	
C058	1-163-038-91	CERAMIC CHIP 0.1µF 25V	
C059	1-163-038-91	CERAMIC CHIP 0.1µF 25V	
C060	1-163-038-91	CERAMIC CHIP 0.1µF 25V	
C061	1-163-038-91	CERAMIC CHIP 0.1µF 25V	
C062	1-163-038-91	CERAMIC CHIP 0.1µF 25V	
C101	1-163-227-11	CERAMIC CHIP 10PF 0.5PF 50V	
C102	1-163-235-11	CERAMIC CHIP 22PF 5% 50V	
C103	1-107-701-11	ELECT 47µF 20% 16V	
C104	1-107-725-11	CERAMIC CHIP 0.1µF 10% 16V	
C106	1-163-021-91	CERAMIC CHIP 0.01µF 10% 50V	
C201	1-163-227-11	CERAMIC CHIP 10PF 0.5PF 50V	
C202	1-163-235-11	CERAMIC CHIP 22PF 5% 50V	
C203	1-107-701-11	ELECT 47µF 20% 16V	
C204	1-107-725-11	CERAMIC CHIP 0.1µF 10% 16V	
C206	1-163-021-91	CERAMIC CHIP 0.01µF 10% 50V	
C301	1-163-227-11	CERAMIC CHIP 10PF 0.5PF 50V	
C302	1-163-235-11	CERAMIC CHIP 22PF 5% 50V	
C303	1-107-701-11	ELECT 47µF 20% 16V	
C304	1-107-725-11	CERAMIC CHIP 0.1µF 10% 16V	

BX

Ref.No.	Part No.	Description			Remark
C306	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C401	1-163-091-00	CERAMIC CHIP	8PF	0.25PF	50V
C402	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C403	1-107-701-11	ELECT	47µF	20%	16V
C404	1-107-725-11	CERAMIC CHIP	0.1µF	10%	16V
C501	1-128-526-11	ELECT	100µF	20%	16V
C502	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C503	1-163-038-91	CERAMIC CHIP	0.1µF		25V
	<CONNECTOR>				
CN001	* 1-774-523-11	PIN, CONNECTOR (PC BOARD) 64P			
	<DIODE>				
D101	8-719-073-01	DIODE MA111-(K8).S0			
D102	8-719-073-01	DIODE MA111-(K8).S0			
D201	8-719-073-01	DIODE MA111-(K8).S0			
D202	8-719-073-01	DIODE MA111-(K8).S0			
D301	8-719-073-01	DIODE MA111-(K8).S0			
D302	8-719-073-01	DIODE MA111-(K8).S0			
D401	8-719-073-01	DIODE MA111-(K8).S0			
D402	8-719-073-01	DIODE MA111-(K8).S0			
D501	8-719-158-19	DIODE RD6.2SB			
	<FILTER>				
FL501	1-239-183-11	FILTER, EMI			
FL502	1-239-480-11	FILTER, EMI			
FL503	1-239-480-11	FILTER, EMI			
	<IC>				
IC010	8-759-460-74	IC BA05FP-E2			
IC050	8-759-539-89	IC LM2990SX-5.0			
IC501	8-759-594-41	IC MB89613R-651			
IC502	8-759-186-44	IC TC74VHC125F			
IC503	8-759-156-54	IC X25040SI			
	<TRANSISTOR>				
Q101	8-729-112-65	TRANSISTOR 2SA1462-Y33			
Q102	8-729-027-38	TRANSISTOR DTA144EKA-T146			
Q103	8-729-107-31	TRANSISTOR 2SC3545-T43			
Q201	8-729-112-65	TRANSISTOR 2SA1462-Y33			
Q202	8-729-027-38	TRANSISTOR DTA144EKA-T146			
Q203	8-729-107-31	TRANSISTOR 2SC3545-T43			
Q301	8-729-112-65	TRANSISTOR 2SA1462-Y33			
Q302	8-729-027-38	TRANSISTOR DTA144EKA-T146			
Q303	8-729-107-31	TRANSISTOR 2SC3545-T43			
Q401	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q402	1-801-806-11	TRANSISTOR DTC144EKA-T146			
Q403	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R			
Q404	8-729-027-38	TRANSISTOR DTA144EKA-T146			
Q501	1-801-806-11	TRANSISTOR DTC144EKA-T146			
	<RESISTOR>				
R101	1-214-837-11	METAL	75	1%	1/2W
R102	1-216-089-91	RES,CHIP	47K	5%	1/10W
R103	1-216-025-91	RES,CHIP	100	5%	1/10W
R104	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R105	1-216-097-91	RES,CHIP	100K	5%	1/10W
R106	1-216-009-91	RES,CHIP	22	5%	1/10W
R107	1-216-025-91	RES,CHIP	100	5%	1/10W
R108	1-216-097-91	RES,CHIP	100K	5%	1/10W
R109	1-216-013-00	RES,CHIP	33	5%	1/10W
R201	1-214-837-11	METAL	75	1%	1/2W
R202	1-216-089-91	RES,CHIP	47K	5%	1/10W
R203	1-216-025-91	RES,CHIP	100	5%	1/10W
R204	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R205	1-216-097-91	RES,CHIP	100K	5%	1/10W
R206	1-216-009-91	RES,CHIP	22	5%	1/10W
R207	1-216-025-91	RES,CHIP	100	5%	1/10W
R208	1-216-097-91	RES,CHIP	100K	5%	1/10W
R209	1-216-013-00	RES,CHIP	33	5%	1/10W
R301	1-214-837-11	METAL	75	1%	1/2W
R302	1-216-089-91	RES,CHIP	47K	5%	1/10W
R303	1-216-025-91	RES,CHIP	100	5%	1/10W
R304	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R305	1-216-097-91	RES,CHIP	100K	5%	1/10W
R306	1-216-009-91	RES,CHIP	22	5%	1/10W
R307	1-216-025-91	RES,CHIP	100	5%	1/10W
R308	1-216-097-91	RES,CHIP	100K	5%	1/10W
R309	1-216-013-00	RES,CHIP	33	5%	1/10W
R401	1-214-837-11	METAL	75	1%	1/2W
R402	1-216-089-91	RES,CHIP	47K	5%	1/10W
R403	1-216-049-91	RES,CHIP	1K	5%	1/10W
R404	1-216-097-91	RES,CHIP	100K	5%	1/10W
R405	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R406	1-216-009-91	RES,CHIP	22	5%	1/10W
R407	1-216-025-91	RES,CHIP	100	5%	1/10W
R408	1-216-097-91	RES,CHIP	100K	5%	1/10W
R409	1-216-013-00	RES,CHIP	33	5%	1/10W
R410	1-216-097-91	RES,CHIP	100K	5%	1/10W
R501	1-216-097-91	RES,CHIP	100K	5%	1/10W
R502	1-216-025-91	RES,CHIP	100	5%	1/10W
R503	1-216-025-91	RES,CHIP	100	5%	1/10W
R504	1-216-097-91	RES,CHIP	100K	5%	1/10W
R505	1-216-025-91	RES,CHIP	100	5%	1/10W
R506	1-216-097-91	RES,CHIP	100K	5%	1/10W
R507	1-216-025-91	RES,CHIP	100	5%	1/10W
R508	1-216-097-91	RES,CHIP	100K	5%	1/10W
R509	1-216-097-91	RES,CHIP	100K	5%	1/10W
R510	1-216-097-91	RES,CHIP	100K	5%	1/10W
R511	1-216-097-91	RES,CHIP	100K	5%	1/10W
R512	1-216-097-91	RES,CHIP	100K	5%	1/10W
R513	1-216-097-91	RES,CHIP	100K	5%	1/10W
R514	1-216-097-91	RES,CHIP	100K	5%	1/10W
R515	1-216-097-91	RES,CHIP	100K	5%	1/10W
R516	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R517	1-216-097-91	RES,CHIP	100K	5%	1/10W
R518	1-216-097-91	RES,CHIP	100K	5%	1/10W
	<TERMINAL BOARD >				
TB001	1-694-601-11	TERMINAL BOARD ASSY, I/O			
	<TEST PIN>				
TP001	* 1-537-864-11	PIN, POST			
TP010	* 1-537-864-11	PIN, POST			
	<CRYSTAL>				
X501	1-578-689-21	VIBRATOR (8 MHz)			

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Ref.No.	Part No.	Description			Remark
*	A-1331-883-A	C MOUNT **********			
	4-373-933-01	SHEET (TRANSISTOR), BN			
	4-382-854-11	SCREW (M3X10), P, SW (+)			
	<CAPACITOR>				
C701	1-107-963-11	ELECT	33µF	20%	250V
C702	1-162-116-00	CERAMIC	680PF	10%	2KV
C703	1-136-627-11	FILM	0.022µF	3%	1KV
C704	1-162-114-00	CERAMIC	4700PF		2KV
C730	1-102-110-00	CERAMIC	220PF	10%	50V
C731	1-107-888-11	ELECT	47µF	20%	25V
C732	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C733	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C734	1-107-963-11	ELECT	33µF	20%	250V
C735	1-102-050-00	CERAMIC	0.01µF	99%	500V
C750	1-102-110-00	CERAMIC	220PF	10%	50V
C751	1-107-888-11	ELECT	47µF	20%	25V
C752	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C753	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C754	1-107-963-11	ELECT	33µF	20%	250V
C755	1-102-050-00	CERAMIC	0.01µF	99%	500V
C770	1-102-110-00	CERAMIC	220PF	10%	50V
C771	1-107-888-11	ELECT	47µF	20%	25V
C772	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C773	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C774	1-107-963-11	ELECT	33µF	20%	250V
C775	1-102-050-00	CERAMIC	0.01µF	99%	500V
C777	1-102-514-11	CERAMIC	22PF	5%	50V
C778	1-102-518-11	CERAMIC	33PF	5%	50V
	<CONNECTOR>				
CN701	* 1-691-096-11	PIN, CONNECTOR (PC BOARD) 8P			
CN702	* 1-564-525-11	PLUG, CONNECTOR 10P			
CN703	1-695-915-11	TAB (CONTACT)			
	<DIODE>				
D730	8-719-073-01	DIODE MA111-(K8).S0			
D731	8-719-073-01	DIODE MA111-(K8).S0			
D732	8-719-073-01	DIODE MA111-(K8).S0			
D733	8-719-073-01	DIODE MA111-(K8).S0			
D734	8-719-073-01	DIODE MA111-(K8).S0			
D735	8-719-073-01	DIODE MA111-(K8).S0			
D736	8-719-073-01	DIODE MA111-(K8).S0			
D737	8-719-073-01	DIODE MA111-(K8).S0			
D738	8-719-157-72	DIODE RD22M-B			
D750	8-719-073-01	DIODE MA111-(K8).S0			
D751	8-719-073-01	DIODE MA111-(K8).S0			
D752	8-719-073-01	DIODE MA111-(K8).S0			
D753	8-719-073-01	DIODE MA111-(K8).S0			
D754	8-719-073-01	DIODE MA111-(K8).S0			
D755	8-719-073-01	DIODE MA111-(K8).S0			
D756	8-719-073-01	DIODE MA111-(K8).S0			
D757	8-719-073-01	DIODE MA111-(K8).S0			
D758	8-719-157-72	DIODE RD22M-B			
D770	8-719-073-01	DIODE MA111-(K8).S0			
D771	8-719-073-01	DIODE MA111-(K8).S0			
D772	8-719-073-01	DIODE MA111-(K8).S0			
D773	8-719-073-01	DIODE MA111-(K8).S0			
D774	8-719-073-01	DIODE MA111-(K8).S0			
D775	8-719-073-01	DIODE MA111-(K8).S0			
D776	8-719-073-01	DIODE MA111-(K8).S0			
D777	8-719-073-01	DIODE MA111-(K8).S0			
D778	8-719-157-72	DIODE RD22M-B			
	<SOCKET>				
J701	⚠ 1-251-116-11	SOCKET, CRT			
	<COIL>				
L701	1-412-532-11	INDUCTOR	39µH		
L730	1-408-597-31	INDUCTOR	3.3µH		
L750	1-408-597-31	INDUCTOR	3.3µH		
L770	1-408-597-31	INDUCTOR	3.3µH		
	<TRANSISTOR>				
Q701	8-729-903-68	TRANSISTOR 2SD982			
Q730	8-729-809-22	TRANSISTOR 2SC3950-D			
Q731	8-729-821-02	TRANSISTOR 2SC3503-DE			
Q732	8-729-801-88	TRANSISTOR 2SA1381-E			
Q733	8-729-821-02	TRANSISTOR 2SC3503-DE			
Q734	8-729-033-31	TRANSISTOR 2SK520K44K45-T1B			
Q735	8-729-105-08	TRANSISTOR 2SA1330-06			
Q750	8-729-809-22	TRANSISTOR 2SC3950-D			
Q751	8-729-821-02	TRANSISTOR 2SC3503-DE			
Q752	8-729-801-88	TRANSISTOR 2SA1381-E			
Q753	8-729-821-02	TRANSISTOR 2SC3503-DE			
Q754	8-729-033-31	TRANSISTOR 2SK520K44K45-T1B			
Q755	8-729-105-08	TRANSISTOR 2SA1330-06			
Q770	8-729-809-22	TRANSISTOR 2SC3950-D			
Q771	8-729-821-02	TRANSISTOR 2SC3503-DE			
Q772	8-729-801-88	TRANSISTOR 2SA1381-E			
Q773	8-729-821-02	TRANSISTOR 2SC3503-DE			
Q774	8-729-033-31	TRANSISTOR 2SK520K44K45-T1B			
Q775	8-729-105-08	TRANSISTOR 2SA1330-06			
	<RESISTOR>				
R701	1-249-383-11	CARBON	1.5	5%	1/4W F
R702	1-249-428-11	CARBON	8.2K	5%	1/4W F
R703	1-216-017-91	RES,CHIP	47	5%	1/10W
R704	1-216-097-91	RES,CHIP	100K	5%	1/10W
R705	1-216-073-00	RES,CHIP	10K	5%	1/10W
R706	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R707	1-219-752-11	CARBON	100K	5%	1/2W
R708	1-220-824-11	CARBON	270K	5%	1/2W
R731	1-216-025-91	RES,CHIP	100	5%	1/10W
R732	1-214-844-81	METAL	150	1%	1/2W
R733	1-215-381-00	METAL	22	1%	1/4W
R734	1-219-688-11	METAL	2.7K	1%	10W
R735	1-216-017-91	RES,CHIP	47	5%	1/10W
R736	1-216-017-91	RES,CHIP	47	5%	1/10W
R737	1-215-892-11	METAL OXIDE	1K	5%	2W F
R738	1-216-013-00	RES,CHIP	33	5%	1/10W
R739	1-216-013-00	RES,CHIP	33	5%	1/10W
R741	1-216-689-11	RES,CHIP	39K	5%	1/10W
R742	1-216-085-00	RES,CHIP	33K	5%	1/10W
R743	1-216-085-00	RES,CHIP	33K	5%	1/10W
R744	1-216-033-00	RES,CHIP	220	5%	1/10W
R745	1-219-744-11	CARBON	220	5%	1/2W
R746	1-219-747-91	CARBON	2.2K	5%	1/2W
R751	1-216-025-91	RES,CHIP	100	5%	1/10W
R752	1-214-844-81	METAL	150	1%	1/2W
R753	1-215-381-00	METAL	22	1%	1/4W
R754	1-219-688-11	METAL	2.7K	1%	10W
R755	1-216-017-91	RES,CHIP	47	5%	1/10W

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Ref.No.	Part No.	Description			Remark
R756	1-216-017-91	RES,CHIP	47	5%	1/10W
R757	1-215-892-11	METAL OXIDE	1K	5%	2W F
R758	1-216-013-00	RES,CHIP	33	5%	1/10W
R759	1-216-013-00	RES,CHIP	33	5%	1/10W
R761	1-216-689-11	RES,CHIP	39K	5%	1/10W
R762	1-216-085-00	RES,CHIP	33K	5%	1/10W
R763	1-216-085-00	RES,CHIP	33K	5%	1/10W
R764	1-216-033-00	RES,CHIP	220	5%	1/10W
R765	1-219-744-11	CARBON	220	5%	1/2W
R766	1-219-747-91	CARBON	2.2K	5%	1/2W
R771	1-216-025-91	RES,CHIP	100	5%	1/10W
R772	1-214-844-81	METAL	150	1%	1/2W
R773	1-215-381-00	METAL	22	1%	1/4W
R774	1-219-688-11	METAL	2.7K	1%	10W
R775	1-216-017-91	RES,CHIP	47	5%	1/10W
R776	1-216-017-91	RES,CHIP	47	5%	1/10W
R777	1-215-892-11	METAL OXIDE	1K	5%	2W F
R778	1-216-013-00	RES,CHIP	33	5%	1/10W
R779	1-216-013-00	RES,CHIP	33	5%	1/10W
R781	1-216-689-11	RES,CHIP	39K	5%	1/10W
R782	1-216-085-00	RES,CHIP	33K	5%	1/10W
R783	1-216-085-00	RES,CHIP	33K	5%	1/10W
R784	1-216-033-00	RES,CHIP	220	5%	1/10W
R785	1-219-744-11	CARBON	220	5%	1/2W
R786	1-219-747-91	CARBON	2.2K	5%	1/2W
R788	1-202-816-11	SOLID	68K	10%	1/2W
	<VARIABLE RESISTOR>				
RV701	⚠1-241-714-11	RES, ADJ, METAL FILM 110M			
RV702	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M			
	<SPARK GAP>				
SG701	1-519-422-11	GAP, SPARK			
SG702	1-519-422-11	GAP, SPARK			
SG703	1-519-422-11	GAP, SPARK			
SG704	1-519-422-11	GAP, SPARK			
SG705	1-519-422-11	GAP, SPARK			

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	* A-1316-456-A	G COMPL			
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	⚠1-473-159-21	CAP ASSY, HIGH-VOLTAGE			
	1-533-223-11	CLIP, FUSE			
	1-900-249-01	LEAD ASSY, FOCUS			
	⚠2-371-561-00	BUSHING (P), INSULATING			
	⚠4-061-191-01	SHEET, INSULATE			
	4-382-854-01	SCREW (M3X8), P, SW (+)			
	7-682-949-09	SCREW +PSW 3X10			
	<CAPACITOR>				
C501	1-163-275-11	CERAMIC CHIP	0.001µF	5%	50V
C502	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C503	1-107-889-11	ELECT	220µF	20%	25V
C504	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C505	1-107-561-11	FILM CHIP	0.01µF	5%	50V
C507	1-107-889-11	ELECT	220µF	20%	25V
C508	1-163-017-00	CERAMIC CHIP	0.0047µF	10%	50V
C509	1-163-275-11	CERAMIC CHIP	0.001µF	5%	50V
C510	1-115-565-11	CERAMIC CHIP	2.2µF	10%	10V
C511	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V

Ref.No.	Part No.	Description			Remark
C512	1-126-964-11	ELECT	10µF	20%	50V
C513	1-126-968-11	ELECT	100µF	20%	50V
C514	1-163-017-00	CERAMIC CHIP	0.0047µF	10%	50V
C515	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C516	1-126-959-11	ELECT	0.47µF	20%	50V
C517	1-163-037-11	CERAMIC CHIP	0.022µF	10%	50V
C518	1-126-967-11	ELECT	47µF	20%	50V
C519	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C520	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C521	1-164-222-11	CERAMIC CHIP	0.22µF		25V
C522	1-164-346-11	CERAMIC CHIP	1µF		16V
C523	1-163-139-00	CERAMIC CHIP	820PF	5%	50V
C524	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C525	1-164-489-11	CERAMIC CHIP	0.22µF	10%	16V
C526	1-107-823-11	CERAMIC CHIP	0.47µF	10%	16V
C527	1-126-968-11	ELECT	100µF	20%	50V
C528	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C529	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C530	1-126-968-11	ELECT	100µF	20%	50V
C531	1-164-344-11	CERAMIC CHIP	0.068µF	10%	25V
C534	1-124-234-00	ELECT	22µF	20%	16V
C536	1-126-967-11	ELECT	47µF	20%	50V
C537	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C538	1-102-119-00	CERAMIC	0.0015µF	10%	50V
C539	1-163-023-00	CERAMIC CHIP	0.015µF	10%	50V
C546	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C547	1-164-161-11	CERAMIC CHIP	0.0022µF	10%	50V
C548	1-126-967-11	ELECT	47µF	20%	50V
C549	1-126-964-11	ELECT	10µF	20%	50V
C550	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C551	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C552	1-126-964-11	ELECT	10µF	20%	50V
C553	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C554	1-126-960-11	ELECT	1µF	20%	50V
C555	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C556	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C557	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C558	1-126-964-11	ELECT	10µF	20%	50V
C559	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C560	1-126-960-11	ELECT	1µF	20%	50V
C561	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C562	1-107-725-11	CERAMIC CHIP	0.1µF	10%	16V
C563	1-163-037-11	CERAMIC CHIP	0.022µF	10%	50V
C564	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C565	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C566	1-163-093-00	CERAMIC CHIP	10PF	5%	50V
C567	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C568	1-106-383-00	MYLAR	0.047µF	10%	200V
C569	1-102-820-00	CERAMIC	330PF	5%	50V
C570	1-123-024-21	ELECT	33µF		160V
C571	1-162-116-00	CERAMIC	680PF	10%	2KV
C573	1-136-044-00	FILM	0.0017µF	3%	1.6KV
C574	1-107-682-11	CERAMIC CHIP	1µF	10%	16V
C575	1-102-030-00	CERAMIC	330PF	10%	500V
C576	1-136-541-11	FILM	1.5µF	5%	200V
C577	1-137-417-11	MYLAR	0.0047µF	10%	200V
C578	1-162-114-00	CERAMIC	0.0047µF		2KV
C581	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C582	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C585	1-126-968-11	ELECT	100µF	20%	50V
C587	1-107-725-11	CERAMIC CHIP	0.1µF	10%	16V
C588	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C589	1-107-364-11	MYLAR	0.01µF	10%	200V
C590	1-107-364-11	MYLAR	0.01µF	10%	200V
C591	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C592	1-163-031-11	CERAMIC CHIP	0.01µF		50V

Ref.No.	Part No.	Description			Remark
C593	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C594	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C595	1-104-652-11	ELECT	470µF	20%	10V
C596	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C598	1-107-877-11	ELECT	1000µF	20%	10V
C599	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C602	⚠ 1-113-889-11	CERAMIC	1000PF	20%	250V
C603	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C604	⚠ 1-107-533-11	MYLAR	1µF	20%	250V
C606	⚠ 1-113-926-11	CERAMIC	0.0047µF		250V
C607	⚠ 1-113-926-11	CERAMIC	0.0047µF		250V
C608	⚠ 1-113-889-11	CERAMIC	1000PF	20%	250V
C609	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C610	1-107-910-11	ELECT	100µF	20%	50V
C611	1-137-479-11	MYLAR	1µF	10%	400V
C612	1-107-906-11	ELECT	10µF	20%	50V
C613	1-136-175-11	FILM	0.68µF	5%	50V
C614	1-107-909-11	ELECT	47µF	20%	50V
C615	1-117-752-11	ELECT(BLOCK)	330µF	20%	450V
C616	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C617	1-107-906-11	ELECT	10µF	20%	50V
C621	1-107-905-11	ELECT	4.7µF	20%	50V
C623	1-137-399-11	MYLAR	0.1µF	5%	100V
C624	1-130-029-00	FILM	8200PF	2%	50V
C625	1-107-906-11	ELECT	10µF	20%	50V
C627	1-107-910-11	ELECT	100µF	20%	50V
C629	1-119-867-11	MYLAR	0.047µF	3%	1KV
C631	1-119-867-11	MYLAR	0.047µF	3%	1KV
C636	1-107-890-11	ELECT	2200µF	20%	25V
C637	1-111-171-31	ELECT	220µF	20%	100V
C638	1-111-171-31	ELECT	220µF	20%	100V
C640	1-107-911-11	ELECT	220µF	20%	50V
C641	1-107-890-11	ELECT	2200µF	20%	25V
C642	1-107-890-11	ELECT	2200µF	20%	25V
C643	1-107-890-11	ELECT	2200µF	20%	25V
C644	1-107-890-11	ELECT	2200µF	20%	25V
C645	1-107-960-11	ELECT	4.7µF	20%	200V
C648	1-107-962-11	ELECT	22µF	20%	250V
C649	1-107-914-11	ELECT	1000µF	20%	25V
C650	1-107-914-11	ELECT	1000µF	20%	25V
C651	1-107-914-11	ELECT	1000µF	20%	25V
C652	1-107-914-11	ELECT	1000µF	20%	25V
C653	1-107-906-11	ELECT	10µF	20%	50V
C654	1-107-906-11	ELECT	10µF	20%	50V
C661	1-107-906-11	ELECT	10µF	20%	50V
C662	1-107-888-11	ELECT	47µF	20%	25V
C663	1-107-888-11	ELECT	47µF	20%	25V
C664	1-107-888-11	ELECT	47µF	20%	25V
C665	1-107-888-11	ELECT	47µF	20%	25V
C666	1-107-906-11	ELECT	10µF	20%	50V
C667	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C669	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C670	1-107-907-11	ELECT	22µF	20%	50V
C671	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C674	1-102-973-00	CERAMIC	100PF	5%	50V
C675	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C676	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C677	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C678	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C679	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C680	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C681	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C682	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C683	1-162-318-11	CERAMIC	0.001µF	10%	500V
C684	1-162-318-11	CERAMIC	0.001µF	10%	500V
C685	1-162-318-11	CERAMIC	0.001µF	10%	500V
C687	1-104-665-11	ELECT	100µF	20%	10V
C688	1-102-129-00	CERAMIC	0.01µF	10%	50V
C689	1-104-652-11	ELECT	470µF	20%	10V
C690	1-104-652-11	ELECT	470µF	20%	10V
C1500	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C1503	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C1505	1-104-555-11	FILM CHIP	0.022µF	5%	16V
C1506	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1507	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1508	1-107-823-11	CERAMIC CHIP	0.47µF	10%	16V
C1511	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C1512	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C1513	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C1514	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C1515	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C1516	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C1517	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C1518	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C1519	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C1520	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C1521	1-163-809-11	CERAMIC CHIP	0.047µF	10%	25V
C1522	1-107-682-11	CERAMIC CHIP	1µF	10%	16V
C1523	1-107-823-11	CERAMIC CHIP	0.47µF	10%	16V
C1524	1-107-823-11	CERAMIC CHIP	0.47µF	10%	16V
C1525	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1526	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C1527	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C1528	1-126-935-11	ELECT	470µF	20%	6.3V
C1530	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C1531	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C1532	1-104-664-11	ELECT	47µF	20%	16V
C1533	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1534	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1535	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C1536	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C1537	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1538	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C1539	1-126-964-11	ELECT	10µF	20%	50V
C1540	1-126-964-11	ELECT	10µF	20%	50V
C1541	1-126-963-11	ELECT	4.7µF	20%	50V
C2501	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C2502	1-162-558-11	CERAMIC	100PF	10%	2KV
C2503	1-126-968-11	ELECT	100µF	20%	50V
C2504	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C2505	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C2506	1-106-383-00	MYLAR	0.047µF	10%	200V
C2507	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C2508	1-123-024-21	ELECT	33µF		160V
C2509	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C2510	1-126-972-11	ELECT	1000µF	20%	50V
C2511	1-126-972-11	ELECT	1000µF	20%	50V
C2512	1-102-820-00	CERAMIC	330PF	5%	50V
C2513	1-126-968-11	ELECT	100µF	20%	50V
C2514	1-162-558-11	CERAMIC	100PF	10%	2KV
C2515	1-130-061-91	FILM	0.0015µF	5%	630V
C2516	1-106-220-00	MYLAR	0.1µF	10%	100V
C2518	1-137-194-81	MYLAR	0.47µF	5%	50V
C2519	1-163-037-11	CERAMIC CHIP	0.022µF	10%	50V
C2520	1-136-155-00	MYLAR	0.015µF	5%	50V
C2521	1-107-914-11	ELECT	1000µF	20%	50V
C2522	1-106-351-00	MYLAR	0.0022µF	99%	200V
C2523	1-126-767-11	ELECT	1000µF	20%	16V
C2524	1-126-767-11	ELECT	1000µF	20%	16V
C2528	1-136-044-00	FILM	0.0017µF	3%	1.6KV

Ref.No.	Part No.	Description			Remark
C2529	1-107-962-11	ELECT	22µF	20%	250V
C2530	1-136-044-00	FILM	0.0017µF	3%	1.6KV
C2531	1-162-115-00	CERAMIC	330PF	10%	2KV
C2532	1-109-844-11	FILM	0.68µF	5%	250V
C2533	1-115-521-11	FILM	0.82µF	5%	250V
C2534	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C2536	1-117-677-11	FILM	3.3µF	5%	250V
C2537	1-104-760-11	CERAMIC CHIP	0.047µF	10%	50V
C2538	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C2539	1-164-346-11	CERAMIC CHIP	1µF		16V
C2541	1-107-957-11	ELECT	1µF	20%	250V
C2542	1-162-115-00	CERAMIC	330PF	10%	2KV
C2543	1-117-677-11	FILM	3.3µF	5%	250V
C2544	1-117-214-11	CERAMIC	0.001	10%	2KV
	<CONNECTOR>				
CN501	* 1-564-515-11	PLUG, CONNECTOR 12P			
CN502	* 1-564-510-11	PLUG, CONNECTOR 7P			
CN601	* 1-766-241-11	PIN, CONNECTOR (PC BOARD) 3P			
CN602	* 1-695-561-11	PIN, CONNECTOR (PC BOARD) 7P			
CN603	* 1-691-960-11	PIN, CONNECTOR (PC BOARD) 3P			
CN604	* 1-691-096-11	PIN, CONNECTOR (PC BOARD) 8P			
CN605	* 1-564-509-11	PLUG, CONNECTOR 6P			
CN606	* 1-564-511-11	PLUG, CONNECTOR 8P			
CN607	* 1-691-291-11	PIN, CONNECTOR 5P			
CN608	* 9-910-999-31	H TYPE BASE POST			
CN2501	* 1-568-536-11	PLUG (MINIATURE DY) 6P			
	<DIODE>				
D501	8-719-073-01	DIODE MA111-(K8).S0			
D502	8-719-073-01	DIODE MA111-(K8).S0			
D503	8-719-073-01	DIODE MA111-(K8).S0			
D504	8-719-158-56	DIODE RD15SB1			
D505	8-719-037-23	DIODE RD12SB1-T1			
D506	8-719-073-01	DIODE MA111-(K8).S0			
D507	8-719-073-01	DIODE MA111-(K8).S0			
D509	8-719-073-01	DIODE MA111-(K8).S0			
D511	8-719-073-01	DIODE MA111-(K8).S0			
D512	8-719-073-01	DIODE MA111-(K8).S0			
D513	8-719-302-43	DIODE EL1Z			
D514	8-719-073-01	DIODE MA111-(K8).S0			
D515	8-719-073-01	DIODE MA111-(K8).S0			
D516	8-719-929-15	DIODE HZS9.1NB2			
D517	8-719-037-23	DIODE RD12SB1-T1			
D518	8-719-988-11	DIODE FE3D			
D519	8-719-988-11	DIODE FE3D			
D520	8-719-028-72	DIODE RGP02-17EL-6433			
D524	8-719-110-31	DIODE RD12ESB2			
D525	8-719-073-01	DIODE MA111-(K8).S0			
D528	8-719-073-01	DIODE MA111-(K8).S0			
D529	8-719-073-01	DIODE MA111-(K8).S0			
D530	8-719-073-01	DIODE MA111-(K8).S0			
D531	8-719-073-01	DIODE MA111-(K8).S0			
D532	8-719-073-01	DIODE MA111-(K8).S0			
D533	8-719-073-01	DIODE MA111-(K8).S0			
D534	8-719-073-01	DIODE MA111-(K8).S0			
D535	8-719-073-01	DIODE MA111-(K8).S0			
D536	8-719-073-01	DIODE MA111-(K8).S0			
D537	8-719-158-40	DIODE RD10SB1			
D538	8-719-158-53	DIODE RD13SB2			
D539	8-719-158-53	DIODE RD13SB2			
D540	8-719-033-53	DIODE RD6.8SB2-T1			
D541	8-719-033-53	DIODE RD6.8SB2-T1			
D601	8-719-073-01	DIODE MA111-(K8).S0			

Ref.No.	Part No.	Description	Remark
D602	⚠ 8-719-510-53	DIODE D4SB60L	
D603	8-719-037-54	DIODE RD30SB-T1	
D604	8-719-028-72	DIODE RGP02-17EL-6433	
D605	8-719-110-31	DIODE RD12ESB2	
D606	8-719-911-19	DIODE 1SS119-25	
D607	8-719-073-01	DIODE MA111-(K8).S0	
D608	8-719-110-67	DIODE RD27ESB2	
D609	8-719-073-01	DIODE MA111-(K8).S0	
D612	8-719-989-76	DIODE SC802-04	
D614	8-719-989-21	DIODE SC311-6-TE12RA	
D617	8-719-037-23	DIODE RD12SB1-T1	
D619	8-719-073-01	DIODE MA111-(K8).S0	
D620	8-719-073-01	DIODE MA111-(K8).S0	
D622	8-719-027-43	DIODE S2L20UF	
D623	8-719-050-18	DIODE D4SBL20U	
D624	8-719-052-91	DIODE D4SBS4-F	
D625	8-719-052-91	DIODE D4SBS4-F	
D626	8-719-052-90	DIODE D1NL40-TA2	
D627	8-719-110-48	DIODE RD18ESB1	
D630	8-719-073-01	DIODE MA111-(K8).S0	
D633	8-719-073-01	DIODE MA111-(K8).S0	
D634	8-719-109-93	DIODE RD6.2ESB2	
D635	8-719-304-63	DIODE RM11C	
D636	8-719-989-21	DIODE SC311-6-TE12RA	
D637	8-719-510-48	DIODE D1N20R	
D638	8-719-037-06	DIODE RD7.5SB1-T1	
D639	8-719-073-01	DIODE MA111-(K8).S0	
D640	8-719-157-94	DIODE RD3.3SB	
D2501	8-719-036-96	DIODE RD5.6SB2	
D2502	8-719-929-15	DIODE HZS9.1NB2	
D2503	8-719-036-96	DIODE RD5.6SB2	
D2504	8-719-908-03	DIODE GP08D	
D2506	8-719-939-07	DIODE ERD38-06	
D2507	8-719-911-19	DIODE 1SS119-25	
D2508	8-719-988-11	DIODE FE3D	
D2509	8-719-988-11	DIODE FE3D	
D2510	8-719-300-76	DIODE RH-1A	
D2511	8-719-075-44	DIODE DD54SCLS-YCC-11	
D2512	8-719-911-19	DIODE 1SS119-25	
D2513	8-719-908-03	DIODE GP08D	
D2514	8-719-951-30	DIODE ERA91-02	
D2515	8-719-158-17	DIODE RD5.6SB2	
D2520	8-719-989-21	DIODE SC311-6-TE12RA	
	<FERRITE BEAD>		
FB501	1-410-397-21	FERRITE 1.1µH	
FB502	1-410-397-21	FERRITE 1.1µH	
FB606	1-410-397-21	FERRITE 1.1µH	
FB2501	1-410-397-21	FERRITE 1.1µH	
FB2503	1-410-397-21	FERRITE 1.1µH	
	<IC>		
IC501	8-759-981-48	IC TL082M	
IC502	8-759-981-48	IC TL082M	
IC503	8-759-239-34	IC TC74HC4538AF	
IC506	8-759-981-48	IC TL082M	
IC507	8-759-593-29	IC TDA9106	
IC508	8-752-072-94	IC CXA1875AM-T4	
IC509	8-759-239-34	IC TC74HC4538AF	
IC510	8-759-239-34	IC TC74HC4538AF	
IC512	8-752-072-94	IC CXA1875AM-T4	
IC514	8-759-198-31	IC µPC1093J	
IC515	8-759-158-82	IC CXA1544M-T6	
IC516	8-759-009-07	IC MC14053BF	

Ref.No.	Part No.	Description	Remark
IC517	8-759-198-31	IC µPC1093J	
IC519	⚠8-759-198-31	IC µPC1093J	
IC520	8-759-998-98	IC LM358D	
IC522	8-759-231-30	IC TC-4S30F	
IC523	8-759-988-13	IC LM393PS	
IC524	8-759-424-31	IC MC74HC175FEL	
IC526	8-759-231-30	IC TC-4S30F	
IC527	8-759-209-69	IC TC4S11F	
IC528	8-759-082-55	IC TC7W00FU	
IC529	8-759-239-34	IC TC74HC4538AF	
IC601	8-749-015-27	IC MZ1540	
IC602	8-749-013-78	IC MCR5102	
IC606	8-759-394-35	IC BA12T	
IC607	8-759-701-88	IC NJM7912FA	
IC608	8-759-450-47	IC BA05T	
IC609	8-759-247-67	IC LM2990T-5.0	
IC610	8-749-920-61	IC SE-135N	
IC2501	8-759-209-90	IC TC4S71F	
IC2502	8-759-100-96	IC UPC4558G2	
IC2503	8-759-980-58	IC TDA8172	
IC2504	8-759-803-42	IC LA6500-FA	
		<COIL>	
L501	1-410-482-31	INDUCTOR 100µH	
L502	1-412-533-21	INDUCTOR 47µH	
L503	1-412-525-31	INDUCTOR 10µH	
L601	1-406-976-11	INDUCTOR 68µH	
L603	1-412-529-11	INDUCTOR 22µH	
L604	1-412-529-11	INDUCTOR 22µH	
L605	1-412-529-11	INDUCTOR 22µH	
L606	1-412-529-11	INDUCTOR 22µH	
L607	1-406-663-21	INDUCTOR 47µH	
L608	1-406-663-21	INDUCTOR 47µH	
L609	1-410-397-21	FERRITE 1.1µH	
L610	1-410-397-21	FERRITE 1.1µH	
L613	1-412-533-21	INDUCTOR 47µH	
L614	1-412-533-21	INDUCTOR 47µH	
L615	1-412-533-21	INDUCTOR 47µH	
L616	1-412-533-21	INDUCTOR 47µH	
L617	1-412-533-21	INDUCTOR 47µH	
L2501	1-459-111-00	INDUCTOR 10mH	
L2502	1-410-682-31	INDUCTOR 470µH	
L2503	1-411-667-11	COIL, HORIZONTAL LINEARITY	
L2504	1-411-667-11	COIL, HORIZONTAL LINEARITY	
L2505	1-412-552-11	INDUCTOR 2.2mH	
L2506	1-414-493-41	INDUCTOR 4.7mH	
L2507	1-406-671-11	INDUCTOR 1mH	
		<NEON LAMP>	
NL501	1-519-526-11	LAMP, NEON	
		<PHOTO COUPLER >	
PH603	8-749-010-64	PHOTO COUPLER PC123F2	
PH604	8-749-010-64	PHOTO COUPLER PC123F2	
		<TRANSISTOR>	
Q501	8-729-925-42	TRANSISTOR IMT2	
Q504	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q505	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R	
Q506	8-729-019-85	TRANSISTOR 2SC3392-5-TB	
Q507	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR	
Q508	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R	
Q509	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q510	8-729-140-96	TRANSISTOR 2SD774-34	
Q511	8-729-140-96	TRANSISTOR 2SD774-34	
Q512	8-729-140-97	TRANSISTOR 2SB734-34	
Q513	8-729-044-21	TRANSISTOR 2SK2655-01R-F165	
Q514	8-729-015-28	TRANSISTOR IRFI9630GS	
Q517	8-729-018-03	TRANSISTOR 2SC4686A	
Q518	8-729-018-03	TRANSISTOR 2SC4686A	
Q520	8-729-900-53	TRANSISTOR DTC114EK	
Q521	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q523	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q524	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q525	8-729-027-38	TRANSISTOR DTA144EKA-T146	
Q529	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q530	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q531	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q532	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q533	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R	
Q534	8-729-027-38	TRANSISTOR DTA144EKA-T146	
Q535	8-729-120-28	TRANSISTOR 2SC1623	
Q536	8-729-027-38	TRANSISTOR DTA144EKA	
Q601	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q602	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q603	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q604	8-729-033-26	TRANSISTOR DTA114GKAT146	
Q605	8-729-029-47	TRANSISTOR DTA143ESA-TP	
Q608	8-729-029-47	TRANSISTOR DTA143ESA-TP	
Q609	8-729-900-53	TRANSISTOR DTC114EK	
Q611	8-729-033-25	TRANSISTOR DTC114GKA	
Q612	8-729-033-26	TRANSISTOR DTA114GKAT146	
Q613	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q614	8-729-200-17	TRANSISTOR 2SA1091-O	
Q615	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q616	8-729-033-25	TRANSISTOR DTC114GKA	
Q617	8-729-033-26	TRANSISTOR DTA114GKAT146	
Q618	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q619	8-729-027-38	TRANSISTOR DTA144EKA-T146	
Q620	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q621	8-729-900-53	TRANSISTOR DTC114EK	
Q622	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q2501	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q2502	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q2503	8-729-015-28	TRANSISTOR IRFI9630GS	
Q2504	8-729-800-32	TRANSISTOR 2SC2362K-G	
Q2505	8-729-820-73	TRANSISTOR 2SC3746	
Q2508	8-729-049-47	TRANSISTOR 2SC5450-CA	
Q2511	8-729-122-13	TRANSISTOR 2SA1221-K	
Q2512	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q2513	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q2514	8-729-034-60	TRANSISTOR 2SK2350	
Q2515	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q2518	8-729-034-60	TRANSISTOR 2SK2350	
Q2519	1-801-806-11	TRANSISTOR DTC144EKA-T146	
		<RESISTOR>	
R501	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R502	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R503	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R504	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R505	1-216-085-00	RES,CHIP 33K 5% 1/10W	
R506	1-216-081-00	RES,CHIP 22K 5% 1/10W	
R507	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R508	1-216-045-00	RES,CHIP 680 5% 1/10W	
R509	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R510	1-216-677-11	METAL CHIP 12K 0.50% 1/10W	

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Ref.No.	Part No.	Description			Remark
R511	1-216-069-00	RES,CHIP	6.8K	5%	1/10W
R512	1-216-073-00	RES,CHIP	10K	5%	1/10W
R513	1-216-049-91	RES,CHIP	1K	5%	1/10W
R514	1-216-073-00	RES,CHIP	10K	5%	1/10W
R515	1-216-001-00	RES,CHIP	10	5%	1/10W
R517	1-216-073-00	RES,CHIP	10K	5%	1/10W
R518	1-216-073-00	RES,CHIP	10K	5%	1/10W
R519	1-216-674-11	METAL CHIP	9.1K	0.50%	1/10W
R520	1-216-077-91	RES,CHIP	15K	5%	1/10W
R521	1-216-059-00	RES,CHIP	2.7K	5%	1/10W
R522	1-216-073-00	RES,CHIP	10K	5%	1/10W
R523	1-216-073-00	RES,CHIP	10K	5%	1/10W
R524	1-216-025-91	RES,CHIP	100	5%	1/10W
R525	1-216-077-91	RES,CHIP	15K	5%	1/10W
R526	1-216-041-00	RES,CHIP	470	5%	1/10W
R527	1-216-049-91	RES,CHIP	1K	5%	1/10W
R528	1-216-073-00	RES,CHIP	10K	5%	1/10W
R529	1-216-041-00	RES,CHIP	470	5%	1/10W
R531	1-216-105-91	RES,CHIP	220K	5%	1/10W
R540	1-216-075-00	RES,CHIP	12K	5%	1/10W
R542	1-216-025-91	RES,CHIP	100	5%	1/10W
R543	1-216-085-00	RES,CHIP	33K	5%	1/10W
R544	1-216-077-91	RES,CHIP	15K	5%	1/10W
R545	1-216-685-11	METAL CHIP	27K	0.50%	1/10W
R546	1-216-673-11	METAL CHIP	8.2K	0.50%	1/10W
R547	1-216-073-00	RES,CHIP	10K	5%	1/10W
R548	1-216-049-91	RES,CHIP	1K	5%	1/10W
R549	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R550	1-216-025-91	RES,CHIP	100	5%	1/10W
R551	1-216-049-91	RES,CHIP	1K	5%	1/10W
R552	1-216-089-91	RES,CHIP	47K	5%	1/10W
R553	1-216-643-11	METAL CHIP	470	0.50%	1/10W
R554	1-216-009-91	RES,CHIP	22	5%	1/10W
R555	1-216-025-91	RES,CHIP	100	5%	1/10W
R556	1-216-001-00	RES,CHIP	10	5%	1/10W
R559	1-216-073-00	RES,CHIP	10K	5%	1/10W
R560	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
R561	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
R562	1-216-643-11	METAL CHIP	470	0.50%	1/10W
R564	1-216-049-91	RES,CHIP	1K	5%	1/10W
R565	1-216-009-91	RES,CHIP	22	5%	1/10W
R566	1-216-049-91	RES,CHIP	1K	5%	1/10W
R567	1-216-083-00	RES,CHIP	27K	5%	1/10W
R569	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
R570	1-216-051-00	RES,CHIP	1.2K	5%	1/10W
R571	1-216-073-00	RES,CHIP	10K	5%	1/10W
R572	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R573	1-216-105-91	RES,CHIP	220K	5%	1/10W
R574	1-216-069-00	RES,CHIP	6.8K	5%	1/10W
R575	1-216-698-11	METAL CHIP	91K	0.50%	1/10W
R576	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
R577	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R578	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
R579	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
R580	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
R581	1-216-685-11	METAL CHIP	27K	0.50%	1/10W
R582	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
R583	1-216-063-91	RES,CHIP	3.9K	5%	1/10W
R584	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
R585	1-216-097-91	RES,CHIP	100K	5%	1/10W
R586	1-249-429-11	CARBON	10K	5%	1/4W
R588	1-249-405-11	CARBON	100	5%	1/4W F
R589	1-208-610-11	METAL OXIDE	2M	5%	1W
R590	1-216-035-00	RES,CHIP	270	5%	1/10W
R591	1-216-073-00	RES,CHIP	10K	5%	1/10W
R592	1-216-049-91	RES,CHIP	1K	5%	1/10W
R593	1-216-081-00	RES,CHIP	22K	5%	1/10W
R594	1-216-073-00	RES,CHIP	10K	5%	1/10W
R595	1-216-069-00	RES,CHIP	6.8K	5%	1/10W
R596	1-216-001-00	RES,CHIP	10	5%	1/10W
R597	1-247-688-11	CARBON	10	5%	1/4W F
R599	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R601	1-216-073-00	RES,CHIP	10K	5%	1/10W
R602	⚠ 1-202-844-00	SOLID	330K	20%	1/2W
R603	1-260-081-11	CARBON	33	5%	1/2W
R604	1-215-887-00	METAL OXIDE	150	5%	2W F
R605	1-216-097-91	RES,CHIP	100K	5%	1/10W
R606	1-240-251-11	CMT,MELF	6.8	5%	10W
R607	1-216-095-00	RES,CHIP	82K	5%	1/10W
R608	1-216-073-00	RES,CHIP	10K	5%	1/10W
R609	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R610	1-216-049-91	RES,CHIP	1K	5%	1/10W
R611	1-207-615-00	METAL	0.33	10%	2W
R612	1-216-089-91	RES,CHIP	47K	5%	1/10W
R613	1-207-615-00	METAL	0.33	10%	2W
R614	1-216-073-00	RES,CHIP	10K	5%	1/10W
R615	1-215-485-00	METAL	470K	1%	1/4W
R616	1-215-485-00	METAL	470K	1%	1/4W
R617	1-215-485-00	METAL	470K	1%	1/4W
R618	1-216-677-11	METAL CHIP	12K	0.50%	1/10W
R619	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W
R620	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
R621	1-216-363-00	METAL OXIDE	0.33	5%	2W F
R622	1-216-363-00	METAL OXIDE	0.33	5%	2W F
R623	1-260-135-11	CARBON	1M	5%	1/2W
R624	1-249-401-11	CARBON	47	5%	1/4W F
R626	1-260-135-11	CARBON	1M	5%	1/2W
R627	1-202-933-61	FUSIBLE	0.1	10%	1/2W F
R628	1-249-401-11	CARBON	47	5%	1/4W F
R631	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R635	1-260-135-11	CARBON	1M	5%	1/2W
R636	1-260-135-11	CARBON	1M	5%	1/2W
R638	1-216-081-00	RES,CHIP	22K	5%	1/10W
R641	1-216-041-00	RES,CHIP	470	5%	1/10W
R642	1-202-933-61	FUSIBLE	0.1	10%	1/2W F
R643	1-202-933-61	FUSIBLE	0.1	10%	1/2W F
R644	1-202-933-61	FUSIBLE	0.1	10%	1/2W F
R645	1-202-933-61	FUSIBLE	0.1	10%	1/2W F
R651	1-216-097-91	RES,CHIP	100K	5%	1/10W
R652	1-215-481-00	METAL	330K	1%	1/4W
R653	1-216-691-11	METAL CHIP	47K	0.50%	1/10W
R654	1-216-049-91	RES,CHIP	1K	5%	1/10W
R657	1-216-041-00	RES,CHIP	470	5%	1/10W
R658	1-216-101-00	RES,CHIP	150K	5%	1/10W
R659	1-216-049-91	RES,CHIP	1K	5%	1/10W
R661	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W
R662	1-215-483-00	METAL	390K	1%	1/4W
R664	1-215-473-00	METAL	150K	1%	1/4W
R665	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
R666	1-216-386-11	METAL OXIDE	0.56	5%	3W F
R667	1-216-073-00	RES,CHIP	10K	5%	1/10W
R668	1-247-895-91	CARBON	470K	5%	1/4W
R669	1-216-049-91	RES,CHIP	1K	5%	1/10W
R672	1-202-933-61	FUSIBLE	0.1	10%	1/2W F
R677	1-216-089-91	RES,CHIP	47K	5%	1/10W
R678	1-216-073-00	RES,CHIP	10K	5%	1/10W
R679	⚠ 1-202-727-00	SOLID	4.7M	20%	1/2W
R680	⚠ 1-202-727-00	SOLID	4.7M	20%	1/2W
R682	1-202-933-61	FUSIBLE	0.1	10%	1/2W F
R683	1-202-933-61	FUSIBLE	0.1	10%	1/2W F

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Ref.No.	Part No.	Description			Remark
R684	1-216-081-00	RES,CHIP	22K	5%	1/10W
R685	1-216-081-00	RES,CHIP	22K	5%	1/10W
R686	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R1502	1-215-911-11	METAL OXIDE	100	5%	3W F
R1505	1-249-397-11	CARBON	22	5%	1/4W F
R1506	1-249-417-11	CARBON	1K	5%	1/4W
R1507	1-249-401-11	CARBON	47	5%	1/4W F
R1508	1-249-397-11	CARBON	22	5%	1/4W F
R1509	⚠1-216-675-91	METAL CHIP	10K	0.50%	1/10W
R1512	1-216-081-00	RES,CHIP	22K	5%	1/10W
R1514	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1515	1-216-093-91	RES,CHIP	68K	5%	1/10W
R1516	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R1517	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R1518	1-216-673-11	METAL CHIP	8.2K	0.50%	1/10W
R1519	1-208-610-11	METAL OXIDE	2M	5%	1W
R1520	1-208-612-11	METAL OXIDE	10M	5%	1W
R1521	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W
R1522	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W
R1523	1-216-669-11	METAL CHIP	5.6K	0.5%	1/10W
R1524	1-202-830-00	SOLID	10K	20%	1/2W
R1525	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1526	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1532	1-216-679-11	METAL CHIP	15K	0.50%	1/10W
R1533	1-216-673-11	METAL CHIP	8.2K	0.50%	1/10W
R1534	1-216-693-11	METAL CHIP	56K	0.50%	1/10W
R1535	1-218-754-11	METAL CHIP	120K	0.50%	1/10W
R1541	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1544	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1545	1-216-113-00	RES,CHIP	470K	5%	1/10W
R1546	1-249-443-11	CARBON	0.47	5%	1/4W F
R1547	1-216-667-11	RES,CHIP	4.7K	0.5%	1/10W
R1548	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1549	1-216-687-11	METAL CHIP	33K	0.50%	1/10W
R1550	1-216-687-11	METAL CHIP	33K	0.50%	1/10W
R1551	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1552	1-216-089-91	RES,CHIP	47K	5%	1/10W
R1553	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R1554	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1555	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R1556	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
R1557	1-216-699-91	METAL CHIP	100K	0.50%	1/10W
R1558	1-218-776-11	METAL CHIP	1M	0.50%	1/10W
R1559	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1560	1-216-693-11	METAL CHIP	56K	0.50%	1/10W
R1561	1-216-695-11	METAL CHIP	68K	0.50%	1/10W
R1562	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1563	1-216-089-91	RES,CHIP	47K	5%	1/10W
R1566	1-216-081-00	RES,CHIP	22K	5%	1/10W
R1567	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1568	1-216-089-91	RES,CHIP	47K	5%	1/10W
R1569	1-216-669-11	RES,CHIP	5.6K	0.5%	1/10W
R1570	1-216-085-00	RES,CHIP	33K	5%	1/10W
R1571	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1572	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1573	1-216-121-91	RES,CHIP	1M	5%	1/10W
R1574	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1575	1-216-067-00	RES,CHIP	5.6K	5%	1/10W
R1576	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R1577	⚠1-216-668-11	METAL CHIP	5.1K	0.50%	1/10W
R1578	1-216-093-91	RES,CHIP	68K	5%	1/10W
R1579	1-216-693-11	METAL CHIP	56K	0.50%	1/10W
R1580	1-216-685-11	METAL CHIP	27K	0.50%	1/10W
R1581	1-216-061-00	RES,CHIP	3.3K	5%	1/10W
R1582	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1583	1-216-097-91	RES,CHIP	100K	5%	1/10W

Ref.No.	Part No.	Description			Remark
R1584	1-216-679-11	METAL CHIP	15K	0.50%	1/10W
R1585	1-216-693-11	METAL CHIP	56K	0.5%	1/10W
R1586	1-216-675-91	METAL CHIP	10K	0.5%	1/10W
R1587	1-216-687-11	METAL CHIP	33K	0.5%	1/10W
R1588	1-216-691-11	METAL CHIP	47K	0.5%	1/10W
R1589	1-216-699-11	METAL CHIP	100K	0.5%	1/10W
R1590	1-216-699-11	METAL CHIP	100K	0.5%	1/10W
R2501	1-216-037-00	RES,CHIP	330	5%	1/10W
R2502	1-249-449-11	CARBON	1.5	5%	1/4W F
R2503	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
R2504	1-249-449-11	CARBON	1.5	5%	1/4W F
R2505	1-249-443-11	CARBON	0.47	5%	1/4W F
R2506	1-260-308-11	CARBON	22	5%	1/2W
R2509	1-216-073-00	RES,CHIP	10K	5%	1/10W
R2510	1-216-059-00	RES,CHIP	2.7K	5%	1/10W
R2512	1-216-073-00	RES,CHIP	10K	5%	1/10W
R2513	1-216-069-00	RES,CHIP	6.8K	5%	1/10W
R2514	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R2517	1-216-025-91	RES,CHIP	100	5%	1/10W
R2518	1-249-383-11	CARBON	1.5	5%	1/4W
R2519	1-216-073-00	RES,CHIP	10K	5%	1/10W
R2520	1-216-453-00	METAL OXIDE	270	5%	2W F
R2521	1-216-373-11	METAL OXIDE	2.2	5%	2W F
R2522	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R2523	1-216-373-11	METAL OXIDE	2.2	5%	2W F
R2524	1-216-073-00	RES,CHIP	10K	5%	1/10W
R2525	1-216-017-91	RES,CHIP	47	5%	1/10W
R2526	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R2527	1-260-288-11	CARBON	0.47	5%	1/2W F
R2528	1-260-288-11	CARBON	0.47	5%	1/2W F
R2529	1-216-448-11	METAL OXIDE	39	5%	2W F
R2530	1-249-476-11	CARBON	1.5	5%	1/2W F
R2531	1-216-081-00	RES,CHIP	22K	5%	1/10W
R2538	1-215-907-11	METAL OXIDE	22	5%	3W F
R2539	1-215-907-11	METAL OXIDE	22	5%	3W F
R2540	1-215-907-11	METAL OXIDE	22	5%	3W F
R2545	1-216-073-00	RES,CHIP	10K	5%	1/10W
R2546	1-216-073-00	RES,CHIP	10K	5%	1/10W
R2547	1-216-448-11	METAL OXIDE	39	5%	2W F
R2548	1-216-073-00	RES,CHIP	10K	5%	1/10W
R2549	1-216-073-00	RES,CHIP	10K	5%	1/10W
R2550	1-216-097-91	RES,CHIP	100K	5%	1/10W
R2551	1-215-862-11	METAL OXIDE	68	5%	1W F
R2552	1-216-097-91	RES,CHIP	100K	5%	1/10W
R2554	1-215-886-11	METAL OXIDE	100	5%	2W F
R2556	1-216-073-00	RES,CHIP	10K	5%	1/10W
R2557	1-215-912-11	METAL OXIDE	150	5%	3W F
R2558	1-216-097-91	RES,CHIP	100K	5%	1/10W
R2559	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R2560	1-249-393-11	CARBON	10	5%	1/4W F
R2561	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
R2562	1-216-081-00	RES,CHIP	22K	5%	1/10W
R2563	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R2564	1-216-369-00	METAL OXIDE	1	5%	2W F
R2565	1-216-025-91	RES,CHIP	100	5%	1/10W
R2570	1-216-077-91	RES,CHIP	15K	5%	1/10W
R2571	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R2572	1-215-905-11	METAL OXIDE	10	5%	3W F
R2574	1-215-908-00	METAL OXIDE	33	5%	3W F
R2575	1-216-452-11	METAL OXIDE	180	5%	2W F

<RELAY>

RY601	⚠1-515-738-11	RELAY	
RY602	1-755-018-11	RELAY	
RY2501	1-755-167-11	RELAY, AC POWER	

Ref.No.		Part No.	Description			Remark
			<TRANSFORMER>			
T501		1-424-555-11	TRANSFORMER, FERRITE (DFT)			
T502	⚠	X-4560-177-1	TRANSFORMER ASSY, FLYBACK			NX-4141/J1A4
T503		1-423-855-11	TRANSFORMER, FERRITE (HRT)			
T602	⚠	1-423-333-11	TRANSFORMER, LINE FILTER (LFT)			
T603		1-416-913-11	INDUCTOR	0µH		
T605		1-435-285-11	CONVERTER			
T2501		1-437-207-11	TRANSFORMER, FERRITE (HOT)			
T2502		1-423-853-11	TRANSFORMER, FERRITE (HDT)			
T2503		1-431-443-11	TRANSFORMER, FERRITE (HST)			
			<THERMISTOR>			
TH501		1-807-973-11	THERMISTOR			
THP601	⚠	1-808-059-31	THERMISTOR, POSITIVE			
			<VARISTOR>			
VDR601	⚠	1-810-622-11	VARISTOR			
VDR602	⚠	1-801-073-31	VARISTOR TNR14V471K660			
**********						
	*	A-1316-504-A	G1 COMPL **********			
			<CAPACITOR>			
C1601		1-104-665-11	ELECT	100µF	20%	10V
C1602		1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1603		1-107-906-11	ELECT	10µF	20%	50V
C1604		1-107-911-11	ELECT	220µF	20%	50V
C1605		1-107-888-11	ELECT	47µF	20%	25V
C1606		1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1607		1-107-880-11	ELECT	4700µF	20%	10V
C1608		1-107-880-11	ELECT	4700µF	20%	10V
C1609		1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1610		1-107-906-11	ELECT	10µF	20%	50V
C1611		1-128-339-11	ELECT	2200µF	20%	10V
			<CONNECTOR>			
CN1601	*	1-691-292-11	CONNECTOR 3P			
CN1602	*	1-779-370-11	CONNECTOR 3P			
			<DIODE>			
D1601		8-719-033-53	DIODE RD6.8SB2-T1			
D1602		8-719-033-53	DIODE RD6.8SB2-T1			
D1603		8-719-989-21	DIODE SC311-6-TE12RA			
D1604		8-719-066-51	DIODE P6KE170AG23			
D1605		8-719-063-73	DIODE D1NL20U-TR			
D1606		8-719-510-41	DIODE D10SC9M			
D1607		8-719-109-86	DIODE RD5.1ESB3			
			< FUSE >			
F1603	⚠	1-533-987-11	FUSE (5A/125V)			
			< FERRITE BEAD >			
FB1601		1-410-397-21	FERRITE	1.1µH		

Ref.No.		Part No.	Description			Remark
			< IC >			
IC1601		8-759-490-02	IC TOP224Y-BB			
IC1602		8-759-140-85	IC µPC1093J			
			< COIL >			
L1601		1-411-799-11	COMMON MODE CHOKE	7µH		
L1602		1-406-975-21	CHOKE	47µH		
			<PHOTO COUPLER>			
PH601		8-749-010-64	PHOTO COUPLER PC123F2			
PH602		8-749-010-64	PHOTO COUPLER PC123F2			
			<TRANSISTOR>			
Q1601		8-729-033-26	TRANSISTOR DTA114GKAT146			
Q1602		8-729-033-25	TRANSISTOR DTC114GKA			
Q1603		8-729-033-25	TRANSISTOR DTC114GKA			
			<RESISTOR>			
R1601		1-216-017-91	RES,CHIP	47	5%	1/10W
R1602		1-249-387-11	CARBON	3.3	5%	1/4W F
R1603		1-216-073-00	RES,CHIP	10K	5%	1/10W
R1604		1-216-009-91	RES,CHIP	22	5%	1/10W
R1605		1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R1606		1-216-049-91	RES,CHIP	1K	5%	1/10W
R1607		1-216-035-00	RES,CHIP	270	5%	1/10W
R1608		1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R1609		1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R1610		1-216-049-91	RES,CHIP	1K	5%	1/10W
R1611		1-216-001-00	RES,CHIP	10	5%	1/10W
R1612		1-216-675-91	METAL CHIP	10K	0.50%	1/10W
R1613		1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W
			<TRANSFORMER>			
T1601		1-435-184-11	TRANSFORMER, CONVERTER			
**********						
	*	A-1372-664-A	HA MOUNT (D14H5) **********			
			<CAPACITOR>			
C201		1-126-206-11	ELECT CHIP	100µF	20%	6.3V
C202		1-126-206-11	ELECT CHIP	100µF	20%	6.3V
C203		1-126-206-11	ELECT CHIP	100µF	20%	6.3V
C204		1-126-206-11	ELECT CHIP	100µF	20%	6.3V
C205		1-126-206-11	ELECT CHIP	100µF	20%	6.3V
C206		1-126-206-11	ELECT CHIP	100µF	20%	6.3V
C207		1-126-206-11	ELECT CHIP	100µF	20%	6.3V
C211		1-163-031-11	CERAMIC CHIP	0.01µF		50V
C212		1-163-031-11	CERAMIC CHIP	0.01µF		50V
C213		1-163-031-11	CERAMIC CHIP	0.01µF		50V
C214		1-163-031-11	CERAMIC CHIP	0.01µF		50V
C215		1-163-031-11	CERAMIC CHIP	0.01µF		50V
C216		1-163-031-11	CERAMIC CHIP	0.01µF		50V
C217		1-163-031-11	CERAMIC CHIP	0.01µF		50V
C301		1-163-031-11	CERAMIC CHIP	0.01µF		50V
C302		1-163-031-11	CERAMIC CHIP	0.01µF		50V
C303		1-163-031-11	CERAMIC CHIP	0.01µF		50V
C304		1-163-031-11	CERAMIC CHIP	0.01µF		50V

Ref.No.	Part No.	Description			Remark
C305	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C306	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C307	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C308	1-163-031-11	CERAMIC CHIP	0.01µF		50V
	<CONNECTOR>				
CN201	* 1-564-005-11	PIN, CONNECTOR 6P			
CN202	* 1-564-009-11	PIN, CONNECTOR 10P			
	<DIODE>				
D201	8-719-073-01	DIODE MA111-(K8).S0			
D202	8-719-073-01	DIODE MA111-(K8).S0			
D203	8-719-073-01	DIODE MA111-(K8).S0			
D204	8-719-073-01	DIODE MA111-(K8).S0			
D205	8-719-073-01	DIODE MA111-(K8).S0			
D206	8-719-073-01	DIODE MA111-(K8).S0			
D207	8-719-073-01	DIODE MA111-(K8).S0			
D208	8-719-073-01	DIODE MA111-(K8).S0			
D209	8-719-073-01	DIODE MA111-(K8).S0			
D210	8-719-073-01	DIODE MA111-(K8).S0			
D211	8-719-073-01	DIODE MA111-(K8).S0			
D212	8-719-073-01	DIODE MA111-(K8).S0			
D213	8-719-073-01	DIODE MA111-(K8).S0			
D214	8-719-073-01	DIODE MA111-(K8).S0			
D215	8-719-073-01	DIODE MA111-(K8).S0			
D216	8-719-073-01	DIODE MA111-(K8).S0			
D217	8-719-073-01	DIODE MA111-(K8).S0			
D218	8-719-073-01	DIODE MA111-(K8).S0			
D219	8-719-073-01	DIODE MA111-(K8).S0			
D220	8-719-073-01	DIODE MA111-(K8).S0			
D221	8-719-073-01	DIODE MA111-(K8).S0			
D222	8-719-073-01	DIODE MA111-(K8).S0			
D223	8-719-987-45	DIODE CL-155Y/PG-CD			
D224	8-719-987-45	DIODE CL-155Y/PG-CD			
D225	8-719-987-45	DIODE CL-155Y/PG-CD			
D226	8-719-987-45	DIODE CL-155Y/PG-CD			
D231	8-719-158-19	DIODE RD6.2SB			
	<IC>				
IC201	8-759-342-19	IC NJU3716M-T2			
IC202	8-759-342-19	IC NJU3716M-T2			
	<TRANSISTOR>				
Q201	1-801-806-11	TRANSISTOR DTC144EKA-T146			
Q202	8-729-921-12	TRANSISTOR 2SD1834			
Q203	8-729-921-12	TRANSISTOR 2SD1834			
	<RESISTOR>				
R201	1-216-043-91	RES,CHIP	560	5%	1/10W
R202	1-216-043-91	RES,CHIP	560	5%	1/10W
R203	1-216-043-91	RES,CHIP	560	5%	1/10W
R204	1-216-043-91	RES,CHIP	560	5%	1/10W
R205	1-216-097-91	RES,CHIP	100K	5%	1/10W
R206	1-216-049-91	RES,CHIP	1K	5%	1/10W
R207	1-216-049-91	RES,CHIP	1K	5%	1/10W
R208	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R209	1-216-049-91	RES,CHIP	1K	5%	1/10W
R210	1-216-097-91	RES,CHIP	100K	5%	1/10W
R211	1-216-085-00	RES,CHIP	33K	5%	1/10W
R212	1-216-095-00	RES,CHIP	82K	5%	1/10W
R213	1-216-085-00	RES,CHIP	33K	5%	1/10W
R214	1-216-095-00	RES,CHIP	82K	5%	1/10W
R215	1-216-089-91	RES,CHIP	47K	5%	1/10W
R216	1-216-089-91	RES,CHIP	47K	5%	1/10W
R217	1-216-089-91	RES,CHIP	47K	5%	1/10W
R301	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R302	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R303	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R304	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R305	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R306	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R307	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R308	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
	<SWITCH>				
S201	1-692-037-31	SWITCH, KEY BOARD (POWER)			
S202	1-692-037-31	SWITCH, KEY BOARD (DEGAUSS)			
S203	1-692-037-31	SWITCH, KEY BOARD (NUM-1)			
S204	1-692-037-31	SWITCH, KEY BOARD (NUM-2)			
S205	1-692-037-31	SWITCH, KEY BOARD (NUM-3)			
S206	1-692-037-31	SWITCH, KEY BOARD (NUM-0)			
S207	1-692-037-31	SWITCH, KEY BOARD (NUM-4)			
S208	1-692-037-31	SWITCH, KEY BOARD (NUM-5)			
S209	1-692-037-31	SWITCH, KEY BOARD (NUM-6)			
S210	1-692-037-31	SWITCH, KEY BOARD (NUM-CLEAR)			
S211	1-692-037-31	SWITCH, KEY BOARD (NUM-7)			
S212	1-692-037-31	SWITCH, KEY BOARD (NUM-8)			
S213	1-692-037-31	SWITCH, KEY BOARD (NUM-9)			
S214	1-692-037-31	SWITCH, KEY BOARD (NUM-ENTER)			
S215	1-692-037-31	SWITCH, KEY BOARD (ENCODER 0)			
S216	1-692-037-31	SWITCH, KEY BOARD (ENCODER 1)			
S217	1-692-037-31	SWITCH, KEY BOARD (ENCODER 2)			
S218	1-692-037-31	SWITCH, KEY BOARD (ENCODER 3)			
S219	1-692-037-31	SWITCH, KEY BOARD (MENU)			
S220	1-692-037-31	SWITCH, KEY BOARD (ENTER)			
S221	1-692-037-31	SWITCH, KEY BOARD (UP)			
S222	1-692-037-31	SWITCH, KEY BOARD (DOWN)			
S231	1-473-469-11	ENCODER, ROTARY (CONTRAST)			
S232	1-473-469-11	ENCODER, ROTARY (BRIGHT)			
S233	1-473-469-11	ENCODER, ROTARY (CHROMA)			
S234	1-473-469-11	ENCODER, ROTARY (PHASE)			

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* A-1372-665-A HB MOUNT (D14H5)
****

<CAPACITOR>

C101	1-126-391-11	ELECT CHIP	47µF	20%	6.3V
C102	1-126-391-11	ELECT CHIP	47µF	20%	6.3V
C111	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C112	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C113	1-163-031-11	CERAMIC CHIP	0.01µF		50V

<CONNECTOR>

CN101	1-506-471-11	PIN, CONNECTOR 6P

Ref.No.	Part No.	Description			Remark
	<DIODE>				
D101	8-719-073-01	DIODE MA111-(K8).S0			
D102	8-719-073-01	DIODE MA111-(K8).S0			
D103	8-719-073-01	DIODE MA111-(K8).S0			
D104	8-719-073-01	DIODE MA111-(K8).S0			
D105	8-719-073-01	DIODE MA111-(K8).S0			
D106	8-719-073-01	DIODE MA111-(K8).S0			
D107	8-719-073-01	DIODE MA111-(K8).S0			
D108	8-719-073-01	DIODE MA111-(K8).S0			
D109	8-719-073-01	DIODE MA111-(K8).S0			
D110	8-719-073-01	DIODE MA111-(K8).S0			
D111	8-719-158-19	DIODE RD6.2SB			
D121	8-719-987-45	DIODE CL-155Y/PG-CD			
D122	8-719-987-45	DIODE CL-155Y/PG-CD			
D123	8-719-987-45	DIODE CL-155Y/PG-CD			
D124	8-719-987-45	DIODE CL-155Y/PG-CD			
D125	8-719-987-45	DIODE CL-155Y/PG-CD			
D126	8-719-987-45	DIODE CL-155Y/PG-CD			
D127	8-719-987-45	DIODE CL-155Y/PG-CD			
D128	8-719-987-45	DIODE CL-155Y/PG-CD			
D129	8-719-987-45	DIODE CL-155Y/PG-CD			
D130	8-719-987-45	DIODE CL-155Y/PG-CD			
	<IC>				
IC101	8-759-342-19	IC NJU3716M-T2			
IC102	8-759-342-19	IC NJU3716M-T2			
	<TRANSISTOR>				
Q101	8-729-921-12	TRANSISTOR 2SD1834			
Q102	8-729-921-12	TRANSISTOR 2SD1834			
Q103	1-801-806-11	TRANSISTOR DTC144EKA-T146			
	<RESISTOR>				
R101	1-216-043-91	RES,CHIP	560	5%	1/10W
R102	1-216-043-91	RES,CHIP	560	5%	1/10W
R103	1-216-043-91	RES,CHIP	560	5%	1/10W
R104	1-216-043-91	RES,CHIP	560	5%	1/10W
R105	1-216-043-91	RES,CHIP	560	5%	1/10W
R106	1-216-043-91	RES,CHIP	560	5%	1/10W
R107	1-216-043-91	RES,CHIP	560	5%	1/10W
R108	1-216-043-91	RES,CHIP	560	5%	1/10W
R109	1-216-043-91	RES,CHIP	560	5%	1/10W
R110	1-216-043-91	RES,CHIP	560	5%	1/10W
R112	1-216-097-91	RES,CHIP	100K	5%	1/10W
R113	1-216-049-91	RES,CHIP	1K	5%	1/10W
R114	1-216-049-91	RES,CHIP	1K	5%	1/10W
R115	1-216-049-91	RES,CHIP	1K	5%	1/10W
R116	1-216-097-91	RES,CHIP	100K	5%	1/10W
R117	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R121	1-216-085-00	RES,CHIP	33K	5%	1/10W
R122	1-216-095-00	RES,CHIP	82K	5%	1/10W
R123	1-216-085-00	RES,CHIP	33K	5%	1/10W
R124	1-216-095-00	RES,CHIP	82K	5%	1/10W
R125	1-216-089-91	RES,CHIP	47K	5%	1/10W
R126	1-216-089-91	RES,CHIP	47K	5%	1/10W
R127	1-216-089-91	RES,CHIP	47K	5%	1/10W
	<SWITCH>				
S101	1-692-037-31	SWITCH, KEY BOARD (SHIFT)			
S102	1-692-037-31	SWITCH, KEY BOARD (/16.9)			
S103	1-692-037-31	SWITCH, KEY BOARD (/SYNC)			
S104	1-692-037-31	SWITCH, KEY BOARD (BLUE ONLY)			
S105	1-692-037-31	SWITCH, KEY BOARD (MON/R)			
S106	1-692-037-31	SWITCH, KEY BOARD (APT/G)			
S107	1-692-037-31	SWITCH, KEY BOARD (COMB/B)			
S108	1-692-037-31	SWITCH, KEY BOARD (F1/F3)			
S109	1-692-037-31	SWITCH, KEY BOARD (F2/F4)			
S110	1-692-037-31	SWITCH, KEY BOARD (ADDRESS/MAKER)			
	* A-1375-185-A	HC COMPL (D14H5) **********			
	1-540-044-11	SOCKET, IC			
	<CAPACITOR>				
C1	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C2	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C4	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C50	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C52	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C53	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C54	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C55	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C56	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C57	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C58	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C59	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C60	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C61	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C62	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C63	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C64	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C65	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C67	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C68	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C81	1-126-206-11	ELECT CHIP	100µF	20%	6.3V
C82	1-124-635-00	ELECT	220µF	20%	6.3V
C83	1-126-206-11	ELECT CHIP	100µF	20%	6.3V
C84	1-126-206-11	ELECT CHIP	100µF	20%	6.3V
C85	1-126-206-11	ELECT CHIP	100µF	20%	6.3V
C86	1-126-206-11	ELECT CHIP	100µF	20%	6.3V
C87	1-126-206-11	ELECT CHIP	100µF	20%	6.3V
C89	1-126-206-11	ELECT CHIP	100µF	20%	6.3V
	<CONNECTOR>				
CN2	1-506-474-11	PIN, CONNECTOR 9P			
CN3	* 1-564-009-11	PIN, CONNECTOR 10P			
CN4	* 1-564-005-11	PIN, CONNECTOR 6P			
CN5	1-506-471-11	PIN, CONNECTOR 6P			
	<DIODE>				
D1	8-719-158-19	DIODE RD6.2SB			
D2	8-719-158-19	DIODE RD6.2SB			
D3	8-719-158-19	DIODE RD6.2SB			
D4	8-719-158-19	DIODE RD6.2SB			
D5	8-719-158-19	DIODE RD6.2SB			
D6	8-719-158-19	DIODE RD6.2SB			
D7	8-719-158-19	DIODE RD6.2SB			
D8	8-719-158-19	DIODE RD6.2SB			

Ref.No.	Part No.	Description			Remark
	<FILTER>				
FL1	1-239-183-11	FILTER, EMI			
FL2	1-239-183-11	FILTER, EMI			
FL3	1-239-183-11	FILTER, EMI			
FL4	1-239-183-11	FILTER, EMI			
FL5	1-236-071-11	ENCAPSULATED COMPONENT			
FL6	1-236-071-11	ENCAPSULATED COMPONENT			
FL7	1-239-183-11	FILTER, EMI			
FL8	1-239-183-11	FILTER, EMI			
FL9	1-239-183-11	FILTER, EMI			
FL10	1-239-183-11	FILTER, EMI			
FL11	1-236-071-11	ENCAPSULATED COMPONENT			
FL12	1-239-183-11	FILTER, EMI			
FL13	1-239-183-11	FILTER, EMI			
FL14	1-239-183-11	FILTER, EMI			
FL15	1-239-183-11	FILTER, EMI			
FL16	1-236-071-11	ENCAPSULATED COMPONENT			
	<IC>				
IC2	8-759-991-19	IC PST529CMT			
IC3	8-759-186-47	IC TC74VHC138F			
IC9	8-759-186-30	IC TC74VHC14F			
IC10	8-759-186-30	IC TC74VHC14F			
IC11	8-759-175-27	IC TC74VHC574F			
IC12	8-759-174-16	IC TC74VHC244F			
IC13	8-759-289-43	IC LTC490CS8			
	<CHIP CONDUCTOR>				
JR2	1-216-296-91	SHORT	0		
	<COIL>				
L2	1-412-537-31	INDUCTOR	100µH		
	<RESISTOR>				
R1	1-216-073-00	RES,CHIP	10K	5%	1/10W
R2	1-216-295-91	SHORT	0		
R3	1-216-073-00	RES,CHIP	10K	5%	1/10W
R4	1-216-073-00	RES,CHIP	10K	5%	1/10W
R5	1-216-073-00	RES,CHIP	10K	5%	1/10W
R6	1-216-073-00	RES,CHIP	10K	5%	1/10W
R7	1-216-097-91	RES,CHIP	100K	5%	1/10W
R12	1-216-073-00	RES,CHIP	10K	5%	1/10W
R13	1-216-073-00	RES,CHIP	10K	5%	1/10W
R14	1-216-049-91	RES,CHIP	1K	5%	1/10W
R15	1-216-049-91	RES,CHIP	1K	5%	1/10W
R16	1-216-073-00	RES,CHIP	10K	5%	1/10W
R19	1-216-073-00	RES,CHIP	10K	5%	1/10W
R20	1-216-073-00	RES,CHIP	10K	5%	1/10W
R21	1-216-049-91	RES,CHIP	1K	5%	1/10W
R22	1-216-049-91	RES,CHIP	1K	5%	1/10W
R23	1-216-049-91	RES,CHIP	1K	5%	1/10W
R24	1-216-049-91	RES,CHIP	1K	5%	1/10W
R25	1-216-049-91	RES,CHIP	1K	5%	1/10W
R26	1-216-049-91	RES,CHIP	1K	5%	1/10W
R27	1-216-049-91	RES,CHIP	1K	5%	1/10W
R28	1-216-049-91	RES,CHIP	1K	5%	1/10W
R41	1-216-073-00	RES,CHIP	10K	5%	1/10W
R42	1-216-073-00	RES,CHIP	10K	5%	1/10W
R43	1-216-073-00	RES,CHIP	10K	5%	1/10W
R44	1-216-073-00	RES,CHIP	10K	5%	1/10W
R50	1-216-097-91	RES,CHIP	100K	5%	1/10W
R60	1-216-089-91	RES,CHIP	47K	5%	1/10W
R61	1-216-089-91	RES,CHIP	47K	5%	1/10W
R62	1-216-089-91	RES,CHIP	47K	5%	1/10W
R63	1-216-089-91	RES,CHIP	47K	5%	1/10W
R64	1-216-089-91	RES,CHIP	47K	5%	1/10W
R65	1-216-089-91	RES,CHIP	47K	5%	1/10W
R66	1-216-089-91	RES,CHIP	47K	5%	1/10W
R67	1-216-089-91	RES,CHIP	47K	5%	1/10W
R68	1-216-097-91	RES,CHIP	100K	5%	1/10W
R70	1-216-097-91	RES,CHIP	100K	5%	1/10W
R71	1-216-097-91	RES,CHIP	100K	5%	1/10W
R72	1-216-097-91	RES,CHIP	100K	5%	1/10W
R73	1-216-097-91	RES,CHIP	100K	5%	1/10W
R74	1-216-097-91	RES,CHIP	100K	5%	1/10W
R75	1-216-097-91	RES,CHIP	100K	5%	1/10W
R76	1-216-097-91	RES,CHIP	100K	5%	1/10W
R77	1-216-097-91	RES,CHIP	100K	5%	1/10W
R78	1-216-097-91	RES,CHIP	100K	5%	1/10W
R79	1-216-097-91	RES,CHIP	100K	5%	1/10W
R80	1-216-097-91	RES,CHIP	100K	5%	1/10W
R81	1-216-097-91	RES,CHIP	100K	5%	1/10W
R82	1-216-097-91	RES,CHIP	100K	5%	1/10W
R83	1-216-097-91	RES,CHIP	100K	5%	1/10W
R84	1-216-097-91	RES,CHIP	100K	5%	1/10W
R85	1-216-097-91	RES,CHIP	100K	5%	1/10W
R86	1-216-097-91	RES,CHIP	100K	5%	1/10W
R87	1-216-097-91	RES,CHIP	100K	5%	1/10W
R88	1-216-097-91	RES,CHIP	100K	5%	1/10W
R89	1-216-097-91	RES,CHIP	100K	5%	1/10W
R90	1-216-097-91	RES,CHIP	100K	5%	1/10W
R91	1-216-097-91	RES,CHIP	100K	5%	1/10W
R92	1-216-097-91	RES,CHIP	100K	5%	1/10W
R93	1-216-097-91	RES,CHIP	100K	5%	1/10W
R94	1-216-097-91	RES,CHIP	100K	5%	1/10W
	<CRYSTAL>				
X1	1-767-892-21	VIBRATOR, CRYSTAL (20 MHz)			
**********					
	* A-1372-136-A	HD MOUNT (D14H1)			
		**********			
	<CONNECTOR>				
CN101	1-565-269-11	SOCKET, CONNECTOR (D-DUB,L) 9P			
CN102	1-506-474-11	PIN, CONNECTOR 9P			
	<DIODE>				
D101	8-719-037-00	DIODE RD6.2SB2-T1			
D102	8-719-037-00	DIODE RD6.2SB2-T1			
D103	8-719-037-00	DIODE RD6.2SB2-T1			
D104	8-719-037-00	DIODE RD6.2SB2-T1			
D105	8-719-037-00	DIODE RD6.2SB2-T1			
**********					

MA

Ref.No.	Part No.	Description			Remark
	* A-1306-572-A	MA COMPL			
		**********			
	1-540-222-11	SOCKET, IC (PCC PACKAGE) 84P			
	1-550-104-11	HOLDER, BATTERY			
	————	BATTERY, LITHIUM CR2025			
		<CAPACITOR>			
C101	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C102	1-126-392-11	ELECT CHIP	100µF	20%	6.3V
C103	1-126-392-11	ELECT CHIP	100µF	20%	6.3V
C104	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C105	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C106	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C108	1-126-392-11	ELECT CHIP	100µF	20%	6.3V
C109	1-126-392-11	ELECT CHIP	100µF	20%	6.3V
C110	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C111	1-126-392-11	ELECT CHIP	100µF	20%	6.3V
C112	1-126-392-11	ELECT CHIP	100µF	20%	6.3V
C113	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C114	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C115	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C116	1-126-392-11	ELECT CHIP	100µF	20%	6.3V
C117	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C118	1-126-392-11	ELECT CHIP	100µF	20%	6.3V
C119	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C120	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C121	1-126-392-11	ELECT CHIP	100µF	20%	6.3V
C122	1-126-392-11	ELECT CHIP	100µF	20%	6.3V
C123	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C124	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C125	1-126-392-11	ELECT CHIP	100µF	20%	6.3V
C126	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C127	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C128	1-126-392-11	ELECT CHIP	100µF	20%	6.3V
C129	1-126-392-11	ELECT CHIP	100µF	20%	6.3V
C130	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C131	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C132	1-126-392-11	ELECT CHIP	100µF	20%	6.3V
C133	1-126-392-11	ELECT CHIP	100µF	20%	6.3V
C134	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C135	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C136	1-126-392-11	ELECT CHIP	100µF	20%	6.3V
C137	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C139	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C140	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C141	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C142	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C144	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C145	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C147	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C148	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C149	1-126-392-11	ELECT CHIP	100µF	20%	6.3V
C150	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C151	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C153	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C154	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C159	1-126-392-11	ELECT CHIP	100µF	20%	6.3V
C160	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C161	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C162	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C163	1-126-392-11	ELECT CHIP	100µF	20%	6.3V
C164	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C165	1-126-400-11	ELECT CHIP	22µF	20%	35V
C166	1-126-392-11	ELECT CHIP	100µF	20%	6.3V
C168	1-126-392-11	ELECT CHIP	100µF	20%	6.3V
C169	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C171	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C172	1-126-392-11	ELECT CHIP	100µF	20%	6.3V
		<CONNECTOR>			
CN101	* 1-564-525-11	PLUG, CONNECTOR 10P			
CN102	* 1-793-722-11	PIN, CONNECTOR (PC BOARD) 50P			
CN103	* 1-564-522-11	PLUG, CONNECTOR 7P			
CN105	* 1-564-524-11	PLUG, CONNECTOR 9P			
		<DIODE>			
D101	8-719-158-19	DIODE RD6.2SB			
D102	8-719-158-19	DIODE RD6.2SB			
D103	8-719-158-19	DIODE RD6.2SB			
D104	8-719-158-19	DIODE RD6.2SB			
D109	8-719-158-19	DIODE RD6.2SB			
		<FILTER>			
FL103	1-239-183-11	FILTER, EMI			
FL104	1-239-183-11	FILTER, EMI			
FL105	1-239-183-11	FILTER, EMI			
FL107	1-239-183-11	FILTER, EMI			
FL108	1-239-183-11	FILTER, EMI			
FL109	1-239-183-11	FILTER, EMI			
FL110	1-239-183-11	FILTER, EMI			
FL111	1-239-183-11	FILTER, EMI			
FL112	1-239-183-11	FILTER, EMI			
FL113	1-239-183-11	FILTER, EMI			
FL114	1-236-071-11	ENCAPSULATED COMPONENT			
FL115	1-236-071-11	ENCAPSULATED COMPONENT			
FL117	1-236-071-11	ENCAPSULATED COMPONENT			
FL120	1-239-183-11	FILTER, EMI			
FL123	1-239-183-11	FILTER, EMI			
FL124	1-239-183-11	FILTER, EMI			
		<IC>			
IC101	8-759-186-44	IC TC74VHC125F			
IC102	8-759-082-59	IC TC7W32FU			
IC103	8-759-925-75	IC SN74HC05ANS			
IC104	8-759-239-98	IC TC74HC30AF			
IC106	8-759-644-13	IC HD6435368AX06M			
IC107	8-759-081-44	IC TC74VHC04F			
IC108	8-759-553-93	IC MBM29F400BC-90PF			
IC109	8-759-186-47	IC TC74VHC138F			
IC110	8-759-346-07	IC MM1026BFB			
IC111	8-759-497-29	IC LC35256DM-70-TLM			
IC112	8-752-381-84	IC CXD1095BQ			
IC113	8-759-575-91	IC MAX490ECSA			
		<CHIP CONDUCTOR>			
JR101	1-216-295-91	SHORT	0		
JR102	1-216-295-91	CONDUCTOR,CHIP	0		
JR103	1-216-097-91	RES,CHIP	100K	5%	1/10W
		<COIL>			
L101	1-412-537-31	INDUCTOR	100µH		

Ref.No.	Part No.	Description			Remark
	<TRANSISTOR>				
Q102	8-729-027-38	TRANSISTOR DTA144EKA-T146			
Q103	1-801-806-11	TRANSISTOR DTC144EKA-T146			
Q104	1-801-806-11	TRANSISTOR DTC144EKA-T146			
Q105	8-729-903-46	TRANSISTOR 2SB1132-P			
Q106	8-729-903-46	TRANSISTOR 2SB1132-P			
	<RESISTOR>				
R101	1-216-097-91	RES,CHIP	100K	5%	1/10W
R102	1-216-097-91	RES,CHIP	100K	5%	1/10W
R103	1-216-025-91	RES,CHIP	100	5%	1/10W
R104	1-216-025-91	RES,CHIP	100	5%	1/10W
R105	1-216-097-91	RES,CHIP	100K	5%	1/10W
R106	1-216-097-91	RES,CHIP	100K	5%	1/10W
R107	1-216-097-91	RES,CHIP	100K	5%	1/10W
R108	1-216-097-91	RES,CHIP	100K	5%	1/10W
R109	1-216-097-91	RES,CHIP	100K	5%	1/10W
R110	1-216-097-91	RES,CHIP	100K	5%	1/10W
R111	1-216-097-91	RES,CHIP	100K	5%	1/10W
R112	1-216-097-91	RES,CHIP	100K	5%	1/10W
R113	1-216-025-91	RES,CHIP	100	5%	1/10W
R115	1-216-025-91	RES,CHIP	100	5%	1/10W
R116	1-216-025-91	RES,CHIP	100	5%	1/10W
R117	1-216-025-91	RES,CHIP	100	5%	1/10W
R118	1-216-097-91	RES,CHIP	100K	5%	1/10W
R119	1-216-097-91	RES,CHIP	100K	5%	1/10W
R120	1-216-025-91	RES,CHIP	100	5%	1/10W
R121	1-216-097-91	RES,CHIP	100K	5%	1/10W
R122	1-216-025-91	RES,CHIP	100	5%	1/10W
R123	1-216-121-91	RES,CHIP	1M	5%	1/10W
R124	1-216-025-91	RES,CHIP	100	5%	1/10W
R125	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R126	1-216-025-91	RES,CHIP	100	5%	1/10W
R127	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R128	1-216-097-91	RES,CHIP	100K	5%	1/10W
R129	1-216-097-91	RES,CHIP	100K	5%	1/10W
R130	1-216-049-91	RES,CHIP	1K	5%	1/10W
R131	1-216-049-91	RES,CHIP	1K	5%	1/10W
R132	1-216-097-91	RES,CHIP	100K	5%	1/10W
R133	1-216-049-91	RES,CHIP	1K	5%	1/10W
R134	1-216-049-91	RES,CHIP	1K	5%	1/10W
R135	1-216-073-00	RES,CHIP	10K	5%	1/10W
R136	1-216-073-00	RES,CHIP	10K	5%	1/10W
R137	1-216-073-00	RES,CHIP	10K	5%	1/10W
R138	1-216-097-91	RES,CHIP	100K	5%	1/10W
R139	1-216-049-91	RES,CHIP	1K	5%	1/10W
R140	1-216-097-91	RES,CHIP	100K	5%	1/10W
R141	1-216-049-91	RES,CHIP	1K	5%	1/10W
R142	1-216-097-91	RES,CHIP	100K	5%	1/10W
R143	1-216-049-91	RES,CHIP	1K	5%	1/10W
R144	1-216-097-91	RES,CHIP	100K	5%	1/10W
R145	1-216-049-91	RES,CHIP	1K	5%	1/10W
R146	1-216-097-91	RES,CHIP	100K	5%	1/10W
R147	1-216-049-91	RES,CHIP	1K	5%	1/10W
R148	1-216-097-91	RES,CHIP	100K	5%	1/10W
R150	1-216-097-91	RES,CHIP	100K	5%	1/10W
R151	1-216-097-91	RES,CHIP	100K	5%	1/10W
R152	1-216-073-00	RES,CHIP	10K	5%	1/10W
R153	1-216-073-00	RES,CHIP	10K	5%	1/10W
R154	1-216-097-91	RES,CHIP	100K	5%	1/10W
R155	1-216-097-91	RES,CHIP	100K	5%	1/10W
R156	1-216-097-91	RES,CHIP	100K	5%	1/10W
R157	1-216-097-91	RES,CHIP	100K	5%	1/10W
R158	1-216-073-00	RES,CHIP	10K	5%	1/10W
R159	1-216-049-91	RES,CHIP	1K	5%	1/10W
R160	1-216-073-00	RES,CHIP	10K	5%	1/10W
R161	1-216-097-91	RES,CHIP	100K	5%	1/10W
R162	1-216-097-91	RES,CHIP	100K	5%	1/10W
R163	1-216-097-91	RES,CHIP	100K	5%	1/10W
R164	1-216-097-91	RES,CHIP	100K	5%	1/10W
R165	1-216-097-91	RES,CHIP	100K	5%	1/10W
R166	1-216-025-91	RES,CHIP	100	5%	1/10W
R167	1-216-097-91	RES,CHIP	100K	5%	1/10W
R168	1-216-025-91	RES,CHIP	100	5%	1/10W
R169	1-216-097-91	RES,CHIP	100K	5%	1/10W
R170	1-216-025-91	RES,CHIP	100	5%	1/10W
R171	1-216-025-91	RES,CHIP	100	5%	1/10W
R172	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
R173	1-216-025-91	RES,CHIP	100	5%	1/10W
R178	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
R179	1-216-047-91	RES,CHIP	820	5%	1/10W
R180	1-216-073-00	RES,CHIP	10K	5%	1/10W
R181	1-216-025-91	RES,CHIP	100	5%	1/10W
R182	1-216-025-91	RES,CHIP	100	5%	1/10W
R183	1-216-073-00	RES,CHIP	10K	5%	1/10W
R184	1-216-025-91	RES,CHIP	100	5%	1/10W
R185	1-216-025-91	RES,CHIP	100	5%	1/10W
R186	1-216-025-91	RES,CHIP	100	5%	1/10W
R187	1-216-025-91	RES,CHIP	100	5%	1/10W
R188	1-216-025-91	RES,CHIP	100	5%	1/10W
R189	1-216-025-91	RES,CHIP	100	5%	1/10W
R190	1-216-033-00	RES,CHIP	220	5%	1/10W
R191	1-216-033-00	RES,CHIP	220	5%	1/10W
R192	1-216-097-91	RES,CHIP	100K	5%	1/10W
R193	1-216-033-00	RES,CHIP	220	5%	1/10W
R194	1-216-033-00	RES,CHIP	220	5%	1/10W
R195	1-216-033-00	RES,CHIP	220	5%	1/10W
R196	1-216-073-00	RES,CHIP	10K	5%	1/10W
R197	1-216-073-00	RES,CHIP	10K	5%	1/10W
R198	1-216-097-91	RES,CHIP	100K	5%	1/10W
	<THERMISTOR>				
THP101	1-771-075-21	THERMISTOR, POSITIVE			
THP102	1-771-075-21	THERMISTOR, POSITIVE			
	<TEST PIN>				
TP110	* 1-537-864-11	PIN, POST			
TP111	* 1-537-864-11	PIN, POST			
TP112	* 1-537-864-11	PIN, POST			
TP113	* 1-537-864-11	PIN, POST			
TP114	* 1-537-864-11	PIN, POST			
	<CRYSTAL>				
X1011-767-892-21		VIBRATOR, CRYSTAL (20 MHz)			
**********					
	* A-1306-571-A	MB COMPL **********			
	7-432-114-11	SCREW LOCK			
	<CAPACITOR>				
C1100	1-126-206-11	ELECT CHIP	100µF	20%	6.3V
C1101	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C1102	1-126-206-11	ELECT CHIP	100µF	20%	6.3V

Ref.No.	Part No.	Description		Remark
C1103	1-165-319-11	CERAMIC CHIP 0.1µF		50V
C1104	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1105	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1106	1-126-206-11	ELECT CHIP 100µF	20%	6.3V
C1107	1-126-206-11	ELECT CHIP 100µF	20%	6.3V
C1108	1-163-233-11	CERAMIC CHIP 18PF	5%	50V
C1109	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1110	1-163-231-11	CERAMIC CHIP 15PF	5%	50V
C1111	1-126-206-11	ELECT CHIP 100µF	20%	6.3V
C1112	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1114	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1115	1-126-206-11	ELECT CHIP 100µF	20%	6.3V
C1116	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1117	1-126-206-11	ELECT CHIP 100µF	20%	6.3V
C1118	1-163-021-91	CERAMIC CHIP 0.01µF	10%	50V
C1119	1-107-682-11	CERAMIC CHIP 1µF	10%	16V
C1120	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1121	1-126-206-11	ELECT CHIP 100µF	20%	6.3V
C1122	1-165-319-11	CERAMIC CHIP 0.1µF		50V
C1123	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1124	1-165-319-11	CERAMIC CHIP 0.1µF		50V
C1125	1-126-206-11	ELECT CHIP 100µF	20%	6.3V
C1126	1-165-319-11	CERAMIC CHIP 0.1µF		50V
C1127	1-126-206-11	ELECT CHIP 100µF	20%	6.3V
C1128	1-165-319-11	CERAMIC CHIP 0.1µF		50V
C1129	1-126-206-11	ELECT CHIP 100µF	20%	6.3V
C1130	1-126-206-11	ELECT CHIP 100µF	20%	6.3V
C1131	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1132	1-165-319-11	CERAMIC CHIP 0.1µF		50V
C1133	1-165-319-11	CERAMIC CHIP 0.1µF		50V
C1134	1-165-319-11	CERAMIC CHIP 0.1µF		50V
C1135	1-163-021-91	CERAMIC CHIP 0.01µF	10%	50V
C1136	1-107-682-11	CERAMIC CHIP 1µF	10%	16V
C1137	1-165-319-11	CERAMIC CHIP 0.1µF		50V
C1138	1-165-319-11	CERAMIC CHIP 0.1µF		50V
C1139	1-165-319-11	CERAMIC CHIP 0.1µF		50V
C1140	1-165-319-11	CERAMIC CHIP 0.1µF		50V
C1141	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1142	1-126-206-11	ELECT CHIP 100µF	20%	6.3V
C1143	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1144	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1145	1-126-206-11	ELECT CHIP 100µF	20%	6.3V
C1146	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1147	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1148	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1149	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1150	1-126-206-11	ELECT CHIP 100µF	20%	6.3V
C1151	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1152	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1153	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1154	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1156	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1157	1-126-206-11	ELECT CHIP 100µF	20%	6.3V
C1158	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1159	1-126-206-11	ELECT CHIP 100µF	20%	6.3V
C1160	1-163-021-91	CERAMIC CHIP 0.01µF	10%	50V
C1161	1-163-021-91	CERAMIC CHIP 0.01µF	10%	50V
C1162	1-164-690-91	CERAMIC CHIP 0.0022µF	5%	50V
C1180	1-163-243-11	CERAMIC CHIP 47PF	5%	50V
		<CONNECTOR>		
CN1100	* 1-564-524-11	PLUG, CONNECTOR 9P		
CN1101	* 1-564-527-11	PLUG, CONNECTOR 12P		
CN1102	* 1-793-722-11	PIN, CONNECTOR (PC BOARD) 50P		
CN1103	1-695-581-21	CONNECTOR, D SUB		
CN1104	1-695-581-21	CONNECTOR, D SUB		
CN1105	* 1-564-524-11	PLUG, CONNECTOR 9P		
CN1106	* 1-564-522-11	PLUG, CONNECTOR 7P		
CN1107	1-695-581-21	CONNECTOR, D SUB		
CN1109	1-793-721-11	JACK, MODULAR		
		<DIODE>		
D1100	8-719-158-19	DIODE RD6.2SB		
D1101	8-719-158-19	DIODE RD6.2SB		
D1102	8-719-158-19	DIODE RD6.2SB		
D1103	8-719-158-19	DIODE RD6.2SB		
D1104	8-719-037-22	DIODE RD12SB-T1		
D1105	8-719-037-22	DIODE RD12SB-T1		
D1106	8-719-037-22	DIODE RD12SB-T1		
D1107	8-719-037-22	DIODE RD12SB-T1		
D1108	8-719-037-22	DIODE RD12SB-T1		
D1109	8-719-037-22	DIODE RD12SB-T1		
D1110	8-719-158-19	DIODE RD6.2SB		
D1111	8-719-158-19	DIODE RD6.2SB		
D1112	8-719-158-19	DIODE RD6.2SB		
D1113	8-719-158-19	DIODE RD6.2SB		
D1114	8-719-158-19	DIODE RD6.2SB		
D1115	8-719-158-19	DIODE RD6.2SB		
D1116	8-719-158-19	DIODE RD6.2SB		
D1117	8-719-158-19	DIODE RD6.2SB		
D1118	8-719-158-19	DIODE RD6.2SB		
		<FILTER>		
FL1100	1-239-183-11	FILTER, EMI		
FL1101	1-239-183-11	FILTER, EMI		
FL1102	1-239-183-11	FILTER, EMI		
FL1103	1-239-183-11	FILTER, EMI		
FL1108	1-239-183-11	FILTER, EMI		
FL1109	1-239-183-11	FILTER, EMI		
FL1110	1-239-183-11	FILTER, EMI		
FL1111	1-239-183-11	FILTER, EMI		
FL1112	1-239-183-11	FILTER, EMI		
FL1113	1-239-183-11	FILTER, EMI		
FL1114	1-239-183-11	FILTER, EMI		
FL1115	1-239-183-11	FILTER, EMI		
FL1116	1-239-183-11	FILTER, EMI		
FL1117	1-239-183-11	FILTER, EMI		
FL1118	1-239-183-11	FILTER, EMI		
FL1119	1-239-183-11	FILTER, EMI		
FL1120	1-239-183-11	FILTER, EMI		
FL1121	1-239-183-11	FILTER, EMI		
		<IC>		
IC1100	8-759-186-26	IC TC74VHC02F		
IC1101	8-759-186-44	IC TC74VHC125F		
IC1102	8-759-081-44	IC TC74VHC04F		
IC1103	8-759-397-01	IC MAX487CSA-TE2		
IC1104	8-759-186-30	IC TC74VHC14F		
IC1105	8-759-594-45	IC MAX3100CEE-TG068		
IC1106	8-759-397-01	IC MAX487CSA-TE2		
IC1107	8-759-522-14	IC MB90096PF-G-127-BND-ER		
IC1108	8-759-594-45	IC MAX3100CEE-TG068		
IC1109	8-759-252-59	IC MAX202CSE		
IC1110	8-759-594-46	IC MB90096PF-178		
IC1112	8-759-454-11	IC MC74HC589AFEL		

Ref.No.	Part No.	Description			Remark
	<COIL>				
L1100	1-412-537-31	INDUCTOR	100µH		
L1101	1-412-537-31	INDUCTOR	100µH		
L1102	1-412-537-31	INDUCTOR	100µH		
	<RESISTOR>				
R1100	1-216-025-91	RES,CHIP	100	5%	1/10W
R1101	1-216-025-91	RES,CHIP	100	5%	1/10W
R1102	1-216-025-91	RES,CHIP	100	5%	1/10W
R1103	1-216-025-91	RES,CHIP	100	5%	1/10W
R1104	1-216-025-91	RES,CHIP	100	5%	1/10W
R1106	1-216-025-91	RES,CHIP	100	5%	1/10W
R1107	1-216-025-91	RES,CHIP	100	5%	1/10W
R1108	1-216-077-91	RES,CHIP	15K	5%	1/10W
R1109	1-216-025-91	RES,CHIP	100	5%	1/10W
R1110	1-216-025-91	RES,CHIP	100	5%	1/10W
R1111	1-216-025-91	RES,CHIP	100	5%	1/10W
R1112	1-216-025-91	RES,CHIP	100	5%	1/10W
R1113	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1114	1-216-025-91	RES,CHIP	100	5%	1/10W
R1115	1-216-025-91	RES,CHIP	100	5%	1/10W
R1117	1-216-121-91	RES,CHIP	1M	5%	1/10W
R1118	1-216-077-91	RES,CHIP	15K	5%	1/10W
R1119	1-216-025-91	RES,CHIP	100	5%	1/10W
R1120	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1121	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1122	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1123	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1125	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1126	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1127	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1128	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1130	1-216-089-91	RES,CHIP	47K	5%	1/10W
R1131	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1132	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1133	1-216-089-91	RES,CHIP	47K	5%	1/10W
R1136	1-216-089-91	RES,CHIP	47K	5%	1/10W
R1137	1-216-295-91	SHORT	0		
R1138	1-216-625-11	METAL CHIP	82	0.50%	1/10W
R1140	1-216-638-11	METAL CHIP	300	0.50%	1/10W
R1141	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1142	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1143	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1144	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1145	1-216-089-91	RES,CHIP	47K	5%	1/10W
R1147	1-216-295-91	SHORT	0		
R1148	1-216-625-11	METAL CHIP	82	0.50%	1/10W
R1149	1-216-638-11	METAL CHIP	300	0.50%	1/10W
R1151	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1152	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1153	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1154	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1155	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1156	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1157	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1158	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1159	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1160	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1161	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1162	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1163	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1164	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1165	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1166	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1167	1-216-089-91	RES,CHIP	47K	5%	1/10W
R1170	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R1171	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R1172	1-216-089-91	RES,CHIP	47K	5%	1/10W
R1173	1-216-089-91	RES,CHIP	47K	5%	1/10W
R1174	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1175	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1176	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1177	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1180	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R1181	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1182	1-216-025-91	RES,CHIP	100	5%	1/10W
R1183	1-216-025-91	RES,CHIP	100	5%	1/10W
R1184	1-216-025-91	RES,CHIP	100	5%	1/10W
R1185	1-216-025-91	RES,CHIP	100	5%	1/10W
R1186	1-216-295-91	SHORT	0		
R1187	1-216-295-91	SHORT	0		
R1188	1-216-295-91	SHORT	0		
R1189	1-216-295-91	SHORT	0		
	<THERMISTOR>				
TH1100	1-533-817-21	THERMISTOR			
	<TEST PIN>				
TP1100	* 1-537-864-11	PIN, POST			
TP1101	* 1-537-864-11	PIN, POST			
TP1102	* 1-537-864-11	PIN, POST			
TP1103	* 1-537-864-11	PIN, POST			
TP1104	* 1-537-864-11	PIN, POST			
TP1106	* 1-537-864-11	PIN, POST			
TP1107	* 1-537-864-11	PIN, POST			
TP1108	* 1-537-864-11	PIN, POST			
TP1109	* 1-537-864-11	PIN, POST			
TP1110	* 1-537-864-11	PIN, POST			
TP1111	* 1-537-864-11	PIN, POST			
TP1112	* 1-537-864-11	PIN, POST			
TP1113	* 1-537-864-11	PIN, POST			
	<CRYSTAL>				
X1100	1-767-280-21	VIBRATOR, CRYSTAL (3.6864 MHz)			
**********					
	* A-1390-942-A	T MOUNT			
		**********			
	<CONNECTOR>				
CN801	* 1-564-526-11	PLUG, CONNECTOR 11P			
CN802	1-774-525-11	SOCKET, CONNECTOR 64P			
CN803	1-774-525-11	SOCKET, CONNECTOR 64P			
CN804	1-774-525-11	SOCKET, CONNECTOR 64P			
CN805	* 1-564-523-11	PLUG, CONNECTOR 8P			
CN806	* 1-564-525-11	PLUG, CONNECTOR 10P			
**********					

YA YB YC

Ref.No.	Part No.	Description			Remark
	* A-1373-716-A	YA MOUNT **********			
	<CONNECTOR>				
CN901	* 1-564-719-11	PIN, CONNECTOR (SMALL TYPE) 3P			
	<DIODE>				
D901	8-719-064-11	DIODE SPR-325MVW			
D902	8-719-064-11	DIODE SPR-325MVW			
D903	8-719-064-11	DIODE SPR-325MVW			
D904	8-719-064-11	DIODE SPR-325MVW			
D905	8-719-064-11	DIODE SPR-325MVW			
	<RESISTOR>				
R901	1-216-049-11	RES,CHIP	1K	5%	1/10W
R902	1-216-049-11	RES,CHIP	1K	5%	1/10W
R903	1-216-049-11	RES,CHIP	1K	5%	1/10W
R904	1-216-049-11	RES,CHIP	1K	5%	1/10W
R905	1-216-049-11	RES,CHIP	1K	5%	1/10W
R906	1-216-049-11	RES,CHIP	1K	5%	1/10W
R907	1-216-049-11	RES,CHIP	1K	5%	1/10W
R908	1-216-049-11	RES,CHIP	1K	5%	1/10W
R909	1-216-049-11	RES,CHIP	1K	5%	1/10W
R910	1-216-049-11	RES,CHIP	1K	5%	1/10W
**********					
	* A-1373-717-A	YB MOUNT (D14H1) **********			
	* A-1373-742-A	YB MOUNT (D14H5) **********			
	<DIODE>				
D921	8-719-061-96	DIODE SLR-325DCT31			
D922	8-719-053-43	DIODE SLR-325VCT31			
D923	8-719-060-27	DIODE SLR-325MCT31			
**********					

Ref.No.	Part No.	Description			Remark
	* A-1373-718-A	YC MOUNT (D14H1) **********			
	* A-1373-743-A	YC MOUNT (D14H5) **********			
	<CONNECTOR>				
CN931	* 1-564-724-11	PIN, CONNECTOR (SMALL TYPE) 8P			
CN932	1-774-533-11	SOCKET, SMALL TYPE DIN (8P)			
	<DIODE>				
D931	8-719-037-22	DIODE RD12SB-T1			
D932	8-719-037-22	DIODE RD12SB-T1			
D933	8-719-037-22	DIODE RD12SB-T1			
D934	8-719-037-22	DIODE RD12SB-T1			
D935	8-719-158-19	DIODE RD6.2SB			
D936	8-719-037-22	DIODE RD12SB-T1			
D937	8-719-037-22	DIODE RD12SB-T1			
	<CHIP CONDUCTOR>				
JR931	1-216-295-91	SHORT	0		
JR932	1-216-295-91	SHORT	0		
**********					
		ACCESSORIES **********			
⚠	1-534-827-14	CORD, POWER 10A/125V (For US)			
	3-170-078-01	HOLDER (B), PLUG (POWER CORD)			
	3-867-938-01	MANUAL, OPERATION (JAPANESE/ENGLISH)			
	4-051-743-01	PLATE, TALLY			
	X-4037-287-1	MASK (4:3) ASSY			

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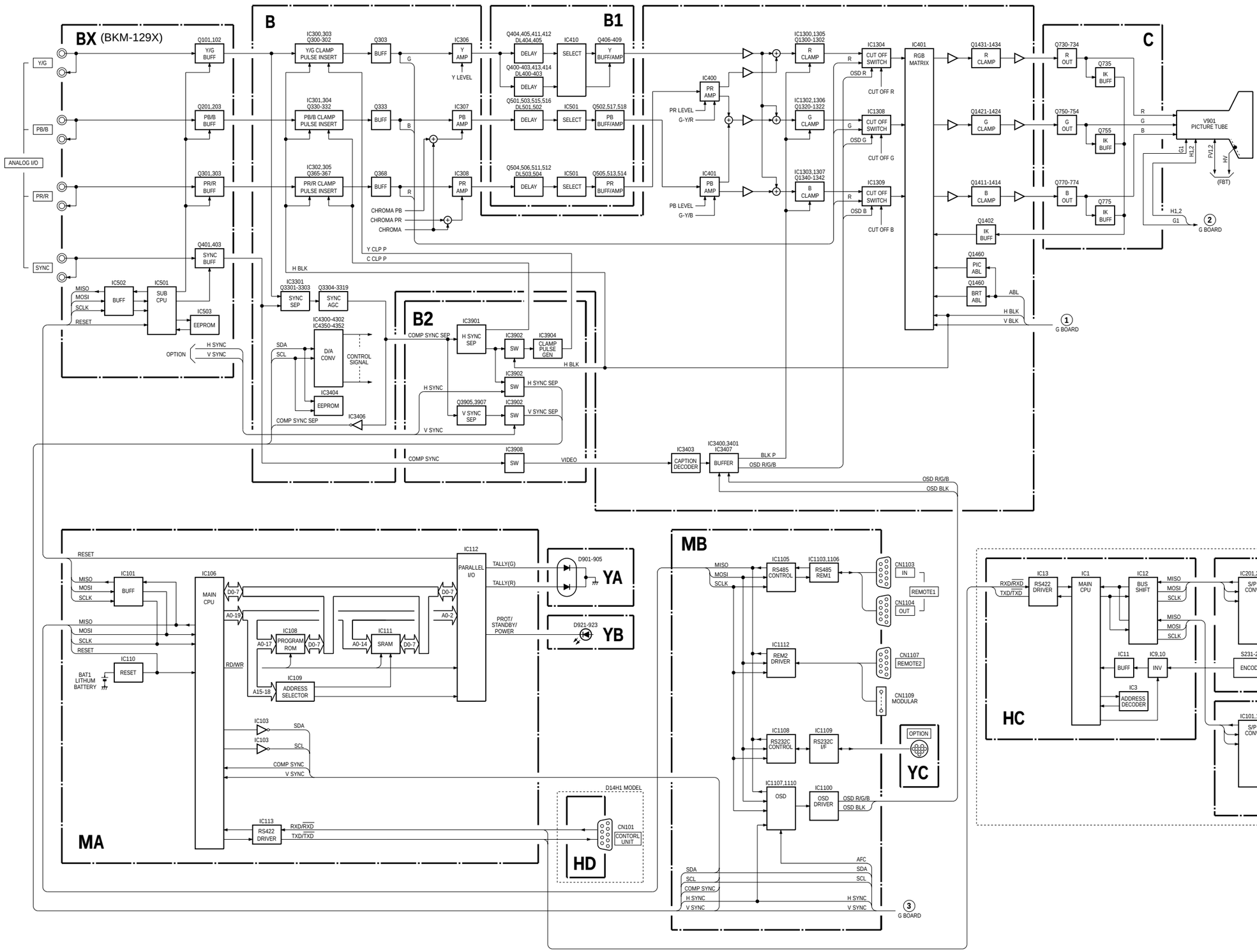
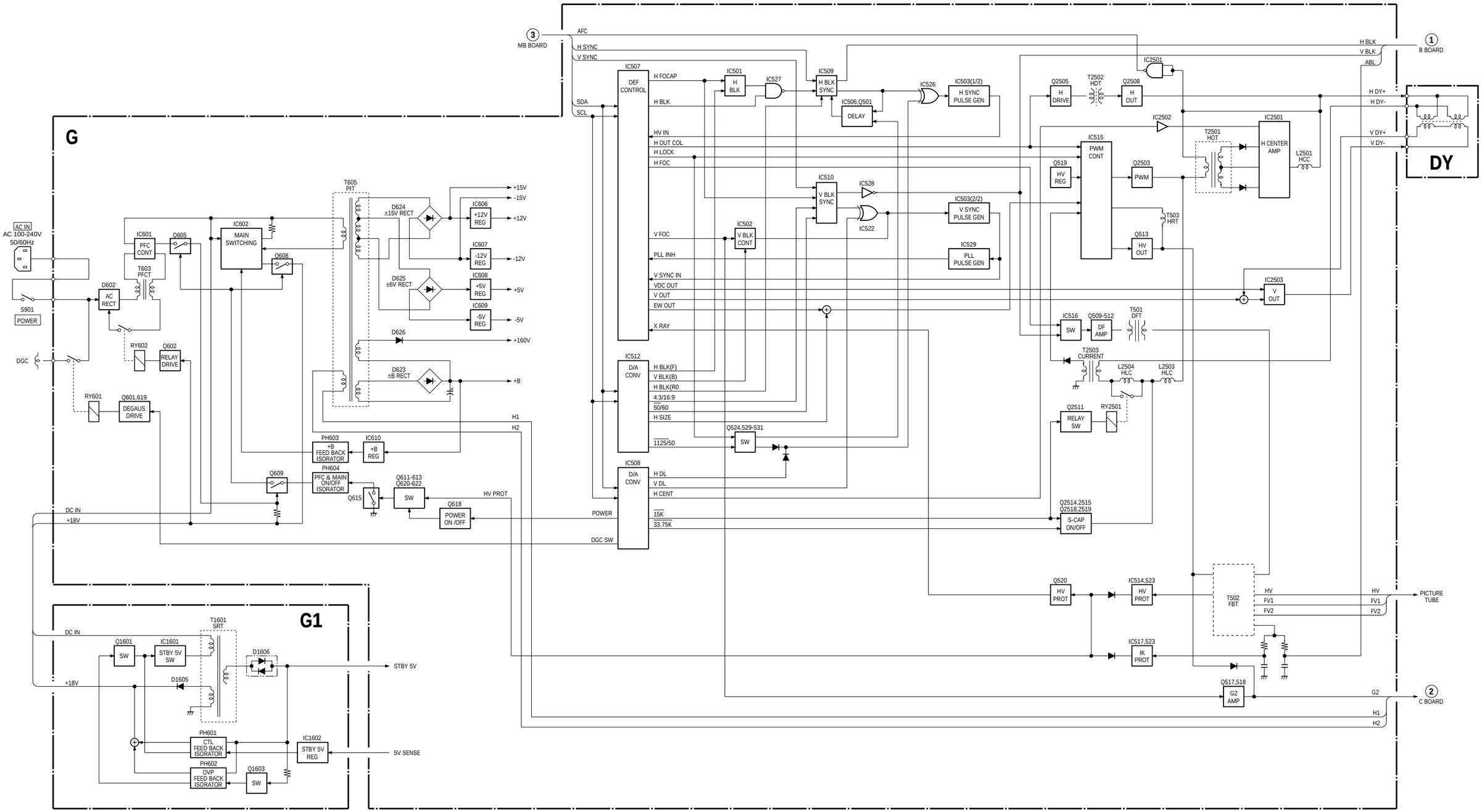
Section 10
Block Diagrams

Overall (1/2)



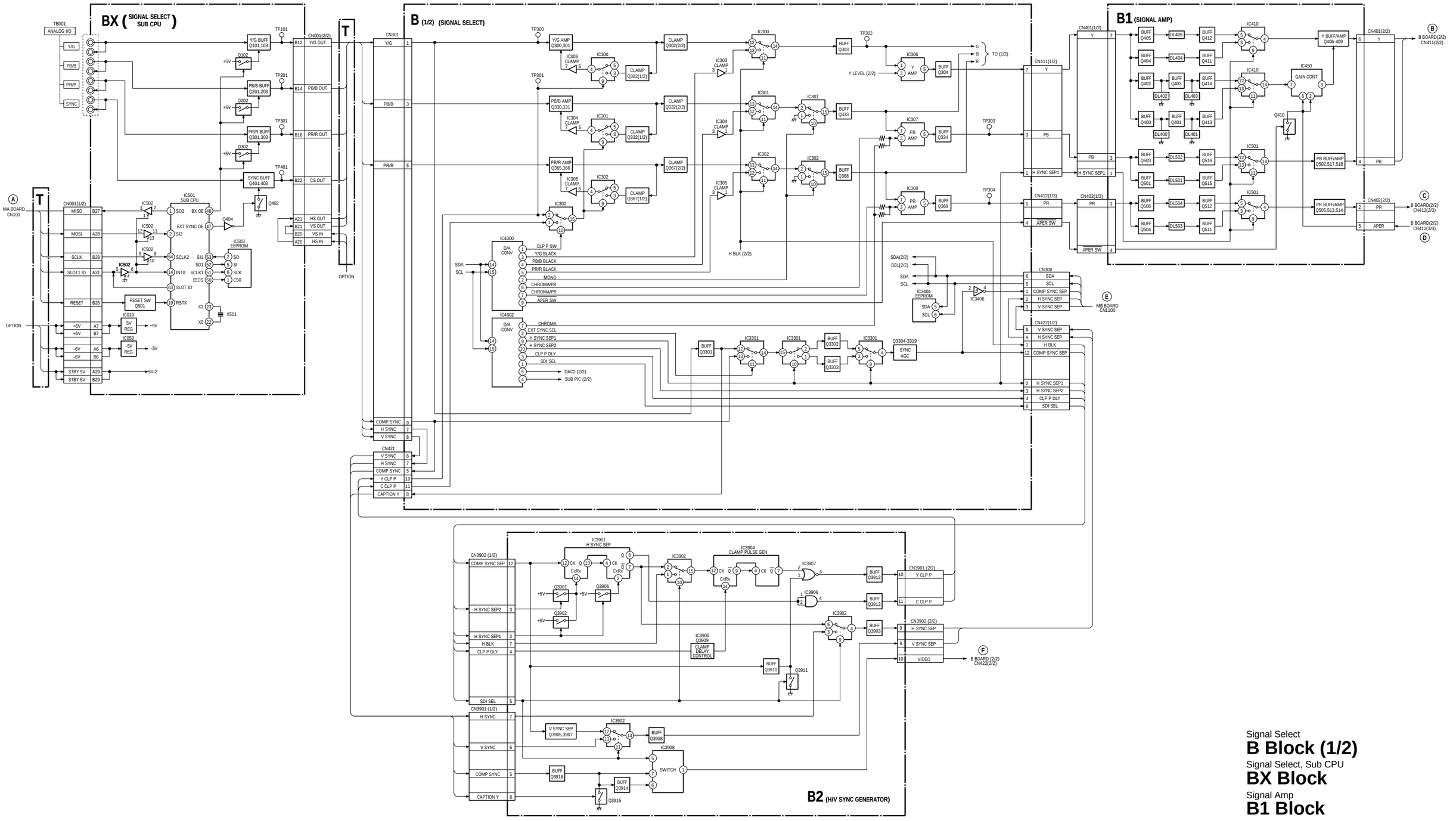
Overall (1/2)

Overall (2/2)



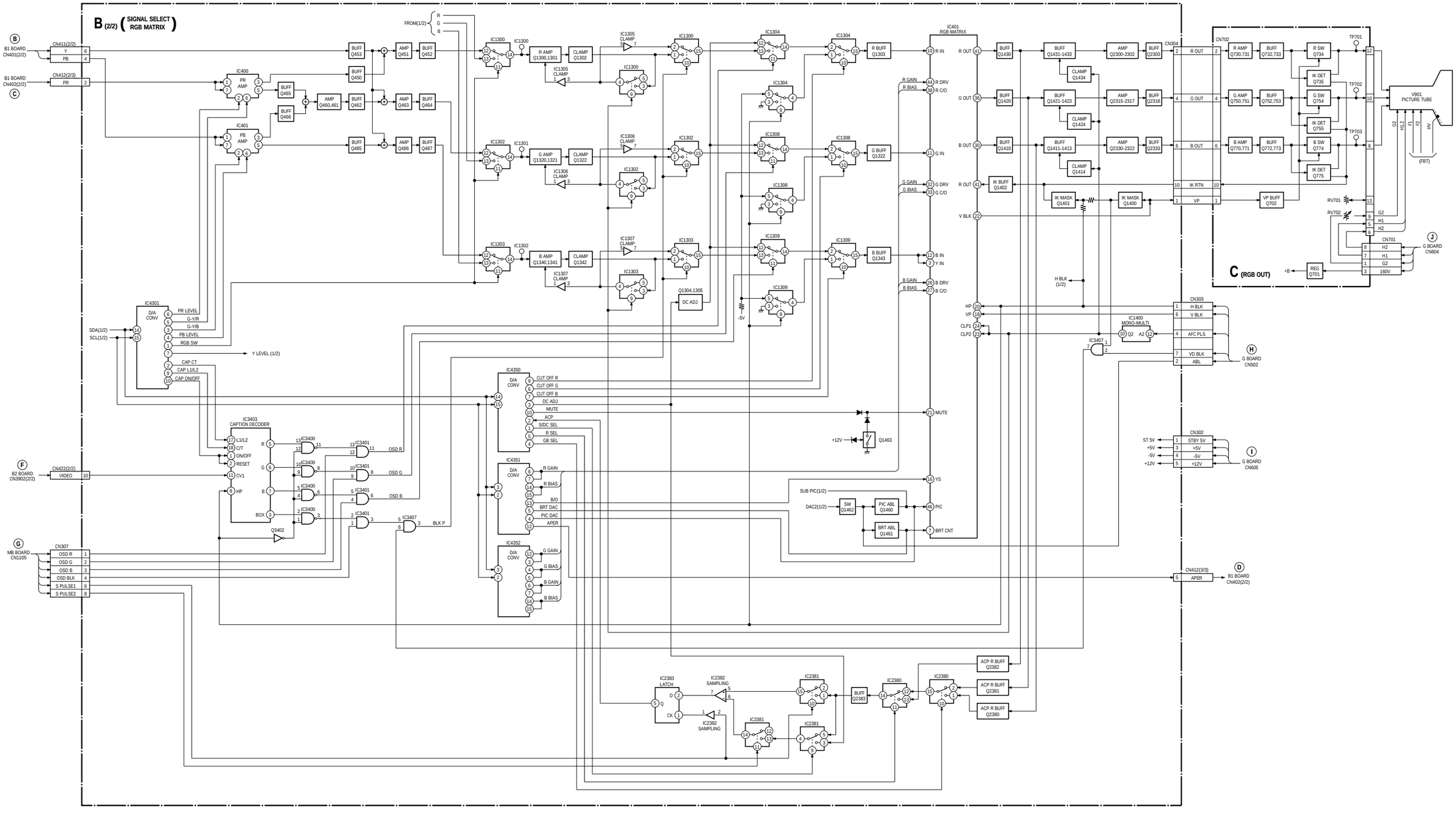
Overall (2/2)

B Block (1/2)
BX Block
B1 Block
B2 Block



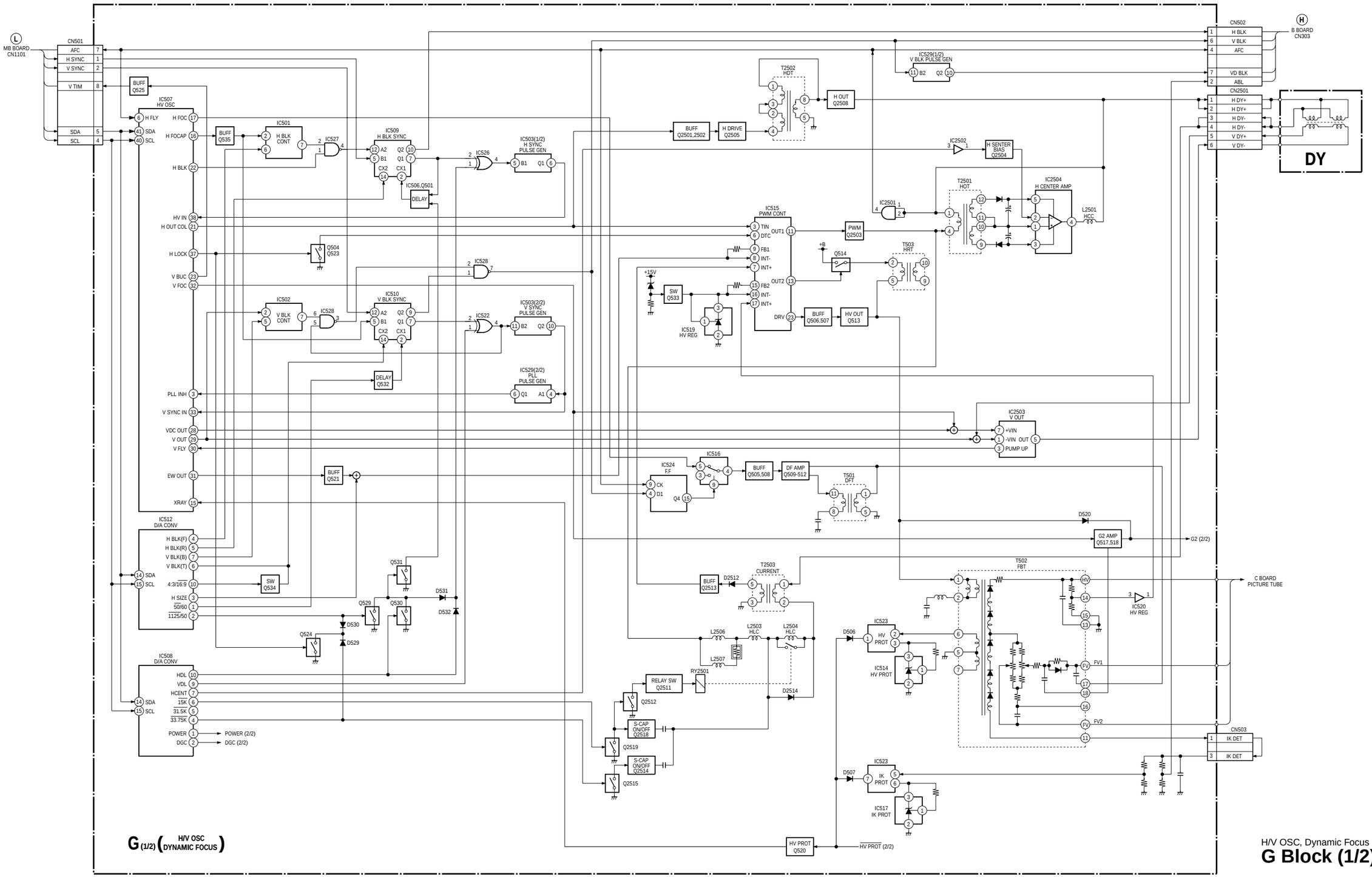
Signal Select
B Block (1/2)
Signal Select, Sub CPU
BX Block
Signal Amp
B1 Block
H/V, Sync Generator
B2 Block

B Block (2/2)
C Block



Signal Select, RGB Matrix
B Block (2/2)
RGB Out
C Block

G Block (1/2)

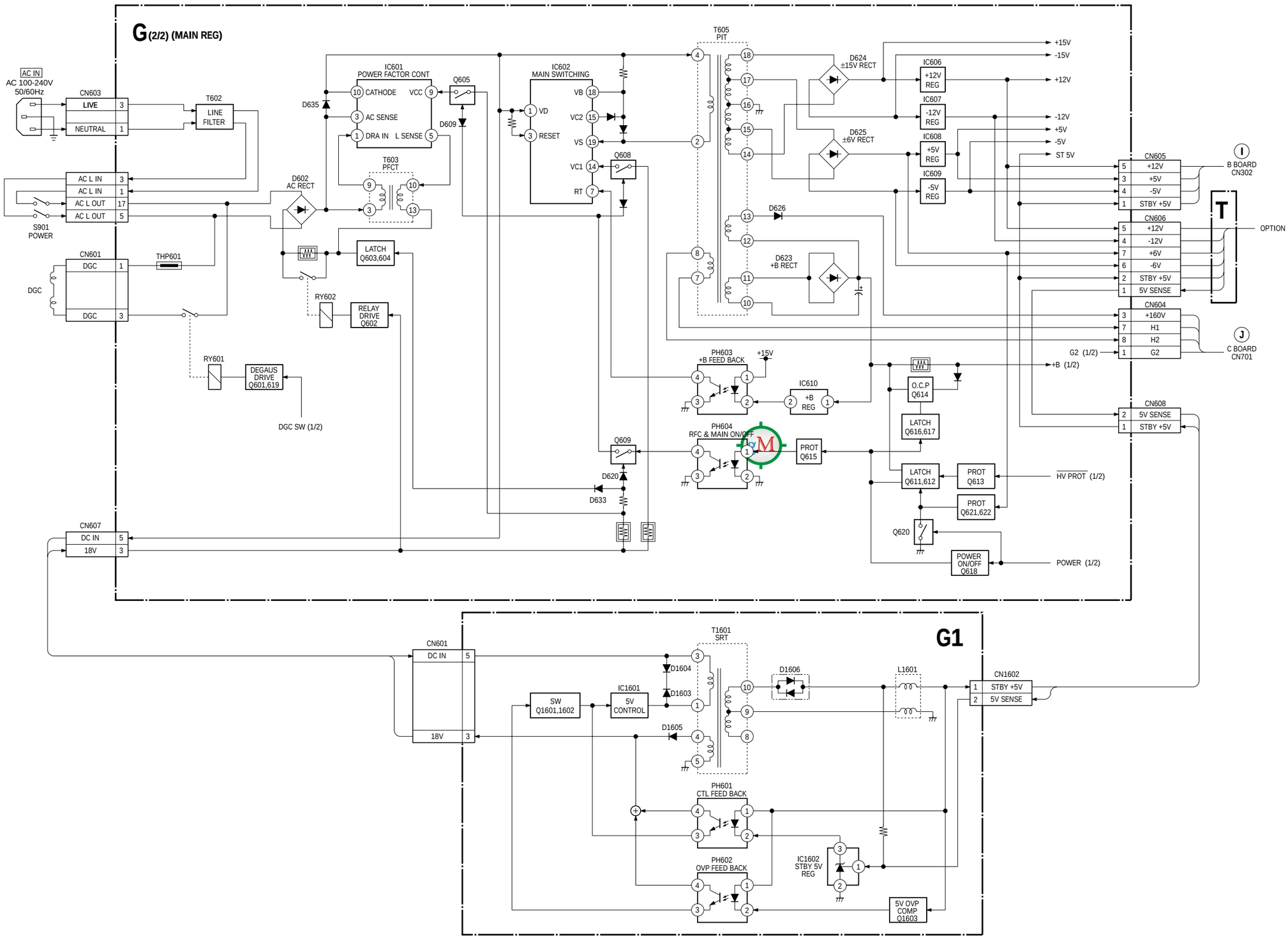


G (1/2) (H/V OSC DYNAMIC FOCUS)

H/V OSC, Dynamic Focus

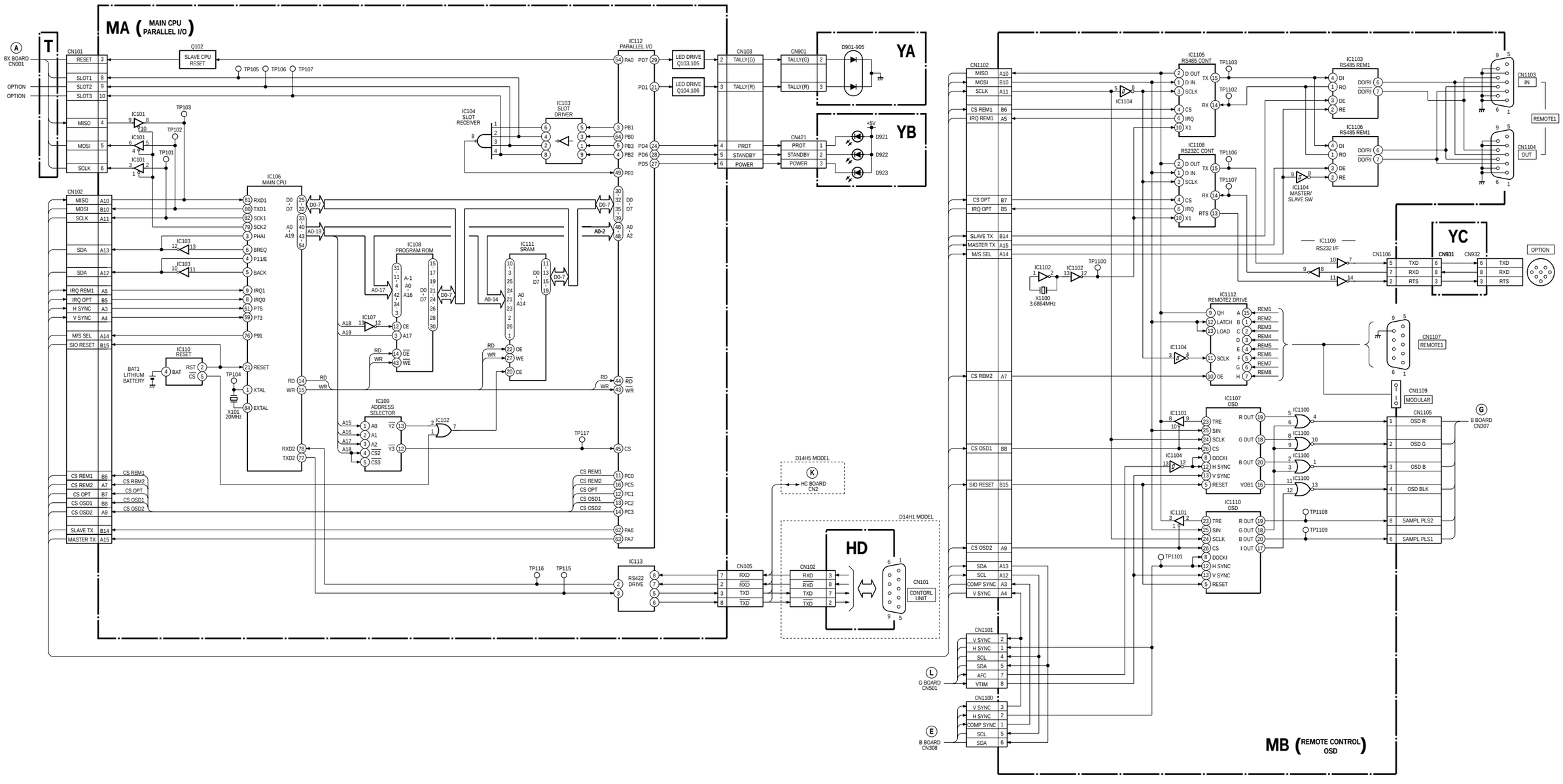
G Block (1/2)

G Block (2/2)
G1 Block



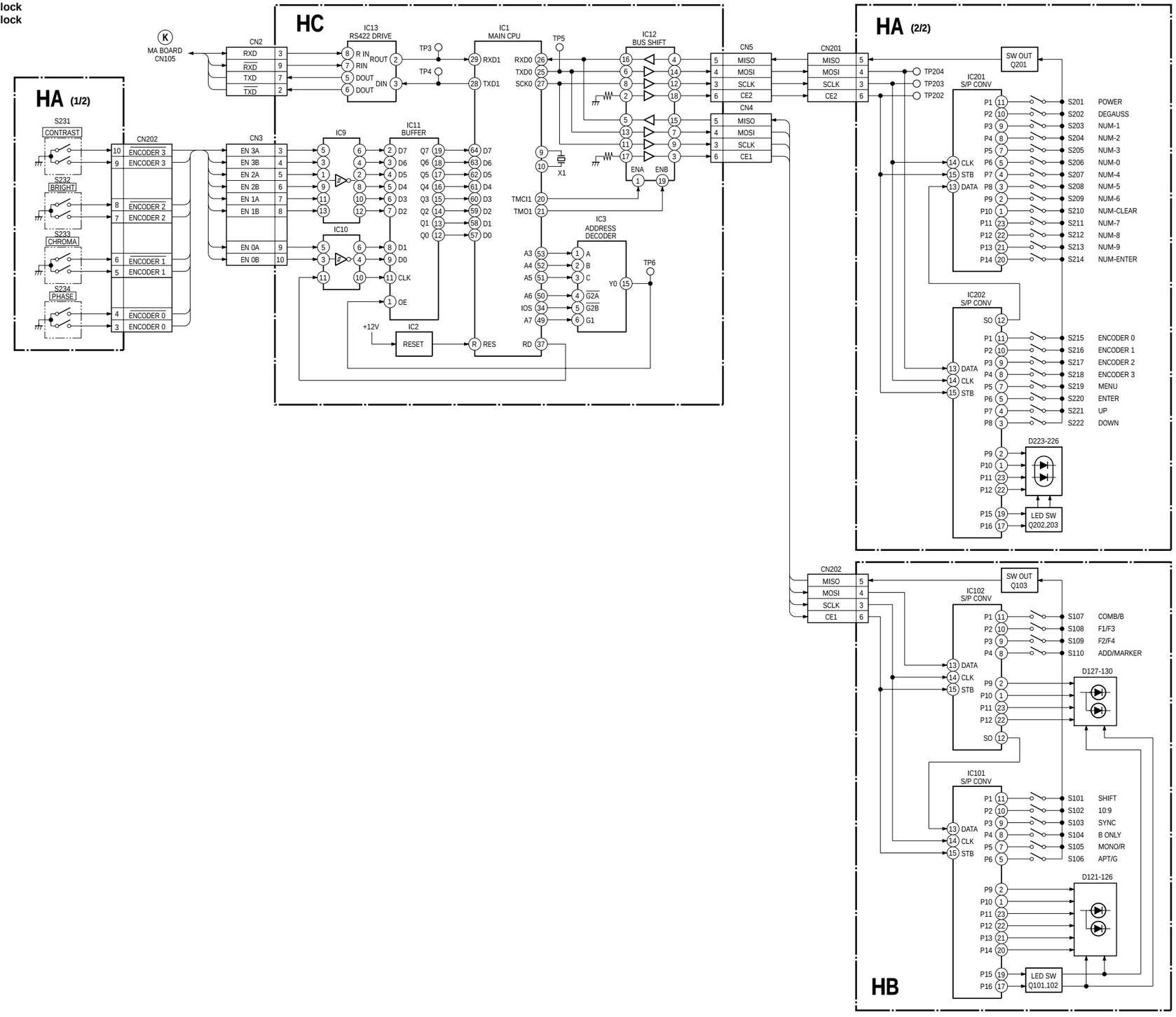
Main Regulator
G Block (2/2)
Main Regulator
G1 Block

MA Block
MB Block



Main CPU, Parallel I/O
MA Block
Remote Control OSD
MB Block

HA Block
HB Block
HC Block



Switch
HA Block
Serial to Parallel Converter
HB Block
Main CPU
HC Block

Section 11
Diagrams

Note:

- Parts marked " * " differ according to the model/destination. Refer to the mount table for each function.
- The parts marked " # " on schematic diagrams are not mounted.
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics.
- All electrolytics are in 50 V unless otherwise specified.
- : fusible resistor
- : nonflammable resistor
- Δ : internal component
- : panel designation and adjustment for repair
- Caution when replacing chip parts
  New parts must be attached after removal of the chip.
  Be careful not to heat the minus side of a tantalum capacitor, because it is easily damaged by the heat.

Reference information

RESISTOR	RN	: METAL FILM
	RC	: SOLID
	FPRD	: NONFLAMMABLE CARBON
	FUSE	: NONFLAMMABLE FUSIBLE
	RS	: NONFLAMMABLE METAL OXIDE
	RB	: NONFLAMMABLE CEMENT
	RW	: NONFLAMMABLE WIREWOUND
	※	: ADJUSTMENT RESISTOR
COIL	LF-8L	: MICRO INDUCTOR
CAPACITOR	TA	: TANTALUM
	PS	: STYROL
	PP	: POLYPROPYLENE
	PT	: MYLAR
	MPS	: METALIZED POLYESTER
	MPP	: METALIZED POLYPROPYLENE
	ALB	: BIPOLAR
	ALT	: HIGH TEMPERATURE
	ALR	: HIGH RIPPLE

- The components marked ⋈ in this schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation.
- When replacing components marked ◪ , make the necessary adjustments indicated. If results do not meet the specified value, change the component marked ⋈ and repeat the adjustment until the specified value is achieved.
- When replacing a part shown in the table below, be sure to perform the related adjustment.

[Measuring conditions, voltage and waveform]

- A voltage value is the reference value between the measurement point and the earth, when the RGB color bar signal is received (digital multi-meter used: 10 M ohms/V DC).
- Unit of voltage is V (volt).
- V : B+line
  V : B– line
- Voltage variations may occur due to normal production tolerances.
- RGB color bar signal.
- Circled numbers indicate the reference waveform.
- : Signal path.

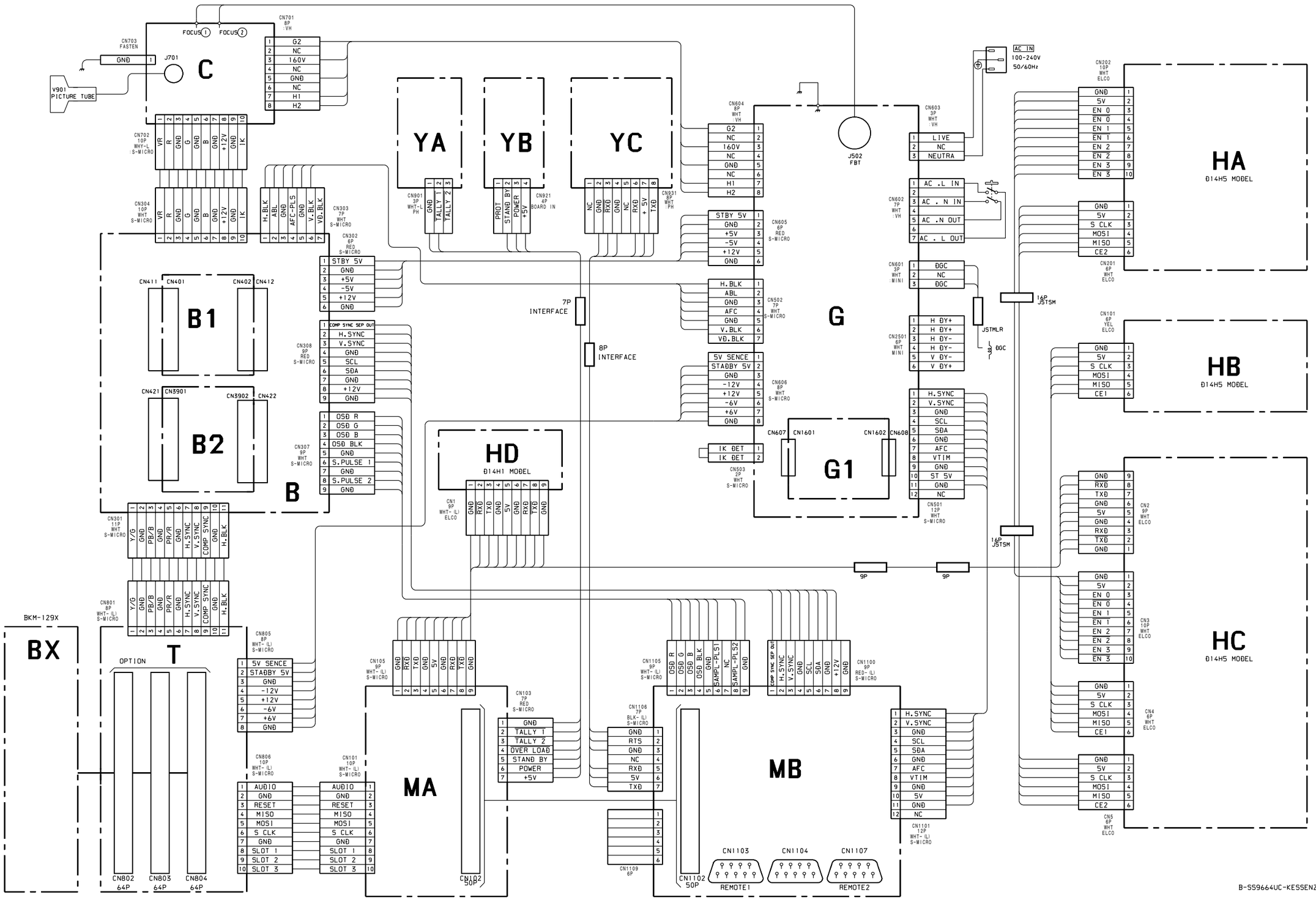
The components identified marked ⚠ are critical for safety.
Replace only with the part number specified.

Les composants identifiés par la marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

NOTE:
The circuit indicated as shown on the left contains high voltages of over 600 Vp-p. Take care to avoid electric shock during inspection or repair work.

11-1

11-1. Frame Schematic Diagrams



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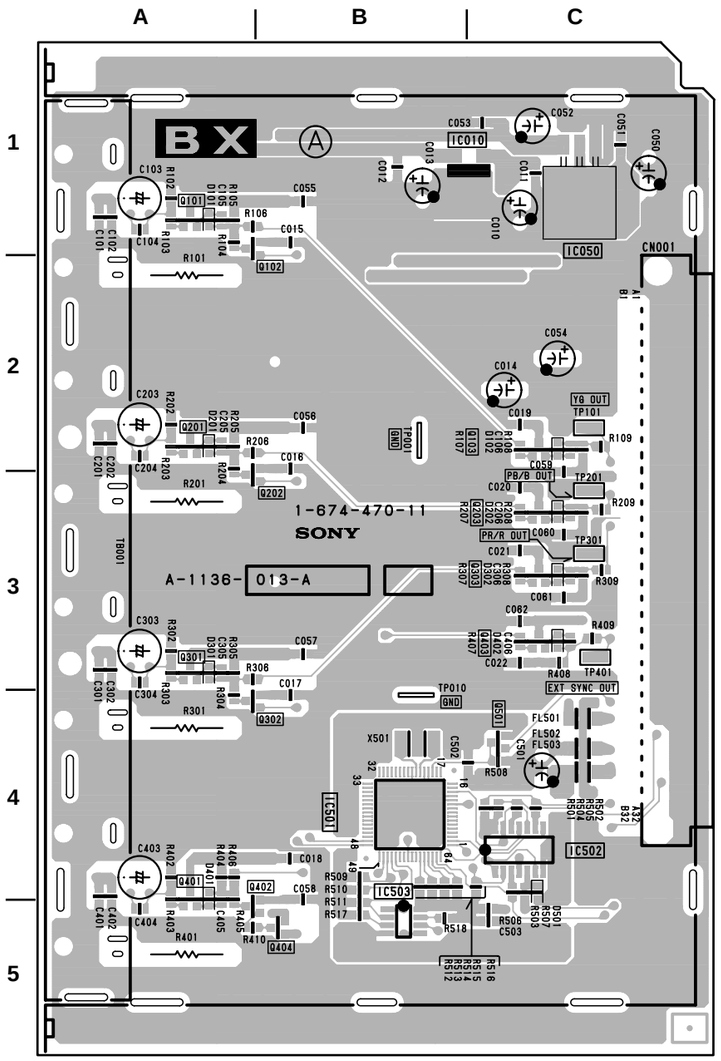
11-2. Schematic Diagrams and Printed Wiring Boards

[BX BOARD]

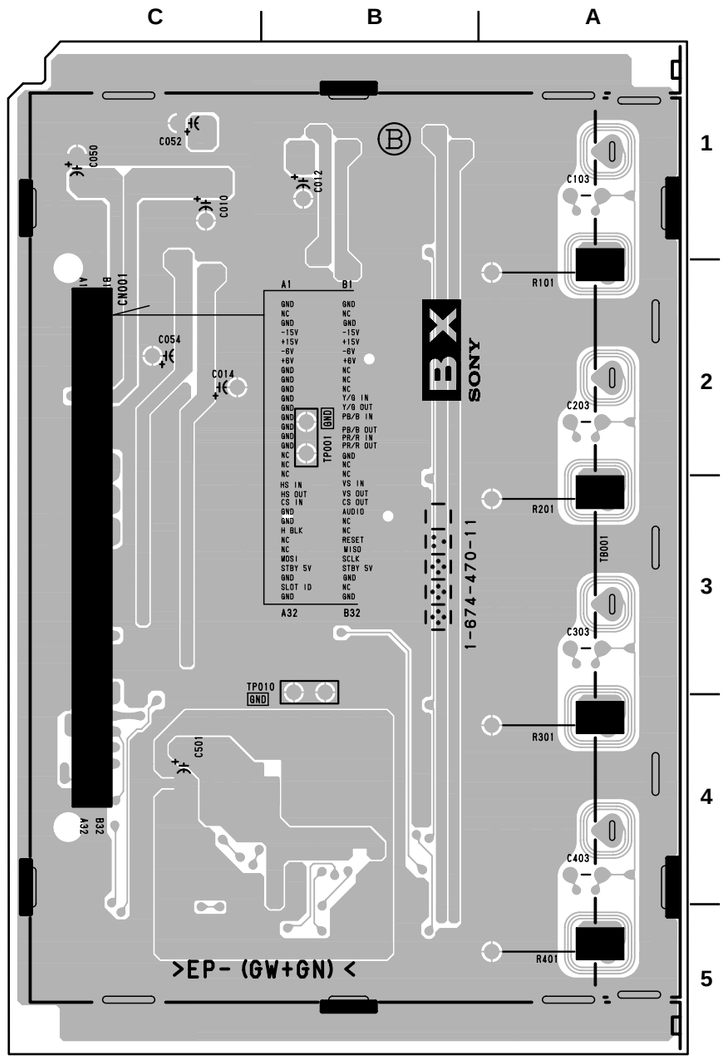
* : B SIDE

D101	A-1
D102	C-2
D201	A-2
D202	C-3
D301	A-3
D302	C-3
D401	A-4
D402	C-3
D501	C-5
IC010	B-1
IC050	C-1
IC501	B-4
IC502	C-4
IC503	B-5
Q101	A-1
Q102	B-2
Q103	C-2
Q201	A-2
Q202	B-3
Q203	C-3
Q301	A-3
Q302	B-4
Q303	C-3
Q401	A-4
Q402	B-4
Q403	C-3
Q404	B-5
Q501	C-4
TP001	B-2
TP010	B-4
TP101	C-2
TP201	C-3
TP301	C-3
TP401	C-3

BX BOARD



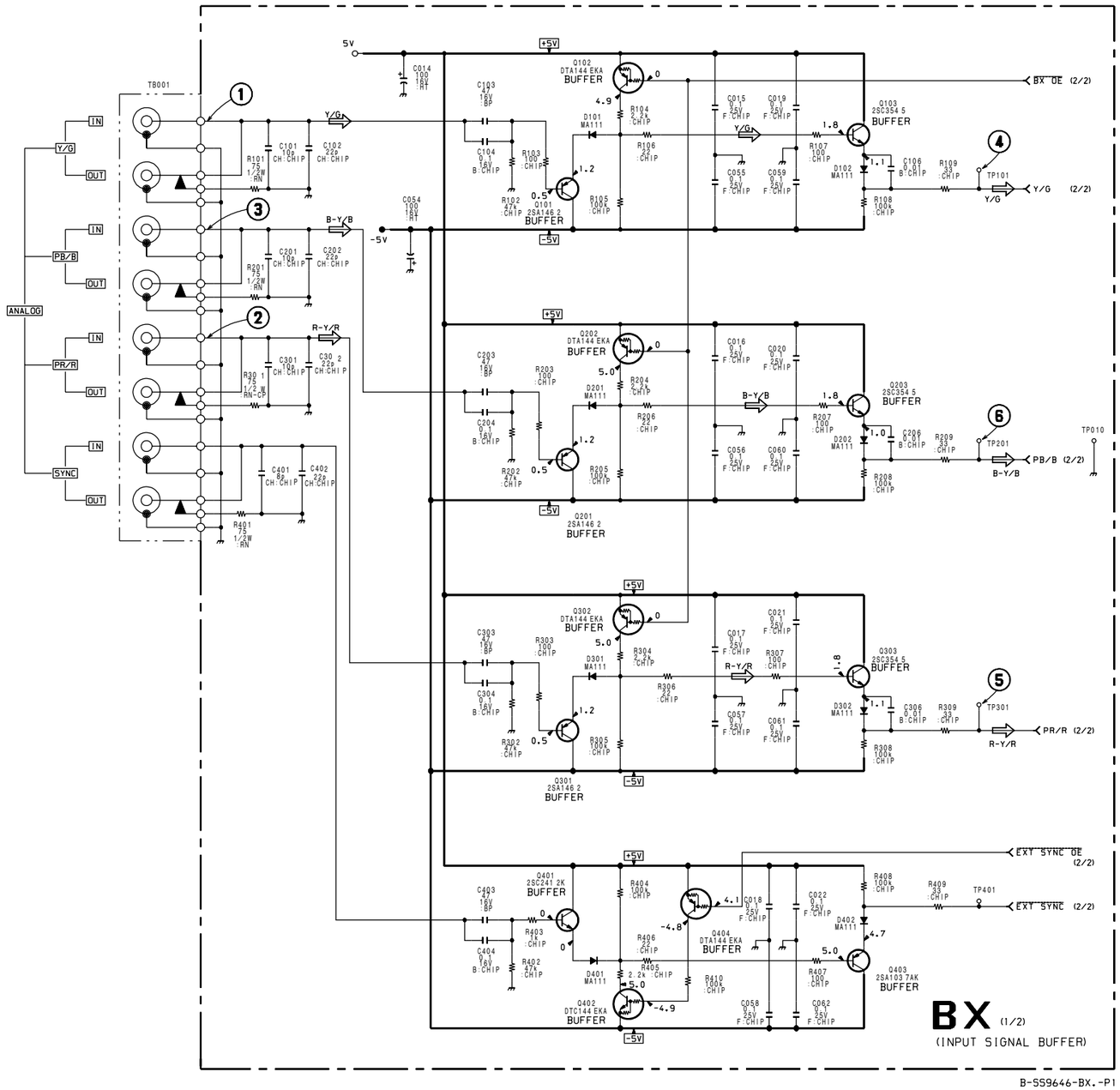
BX –A SIDE–
SUFFIX: -11

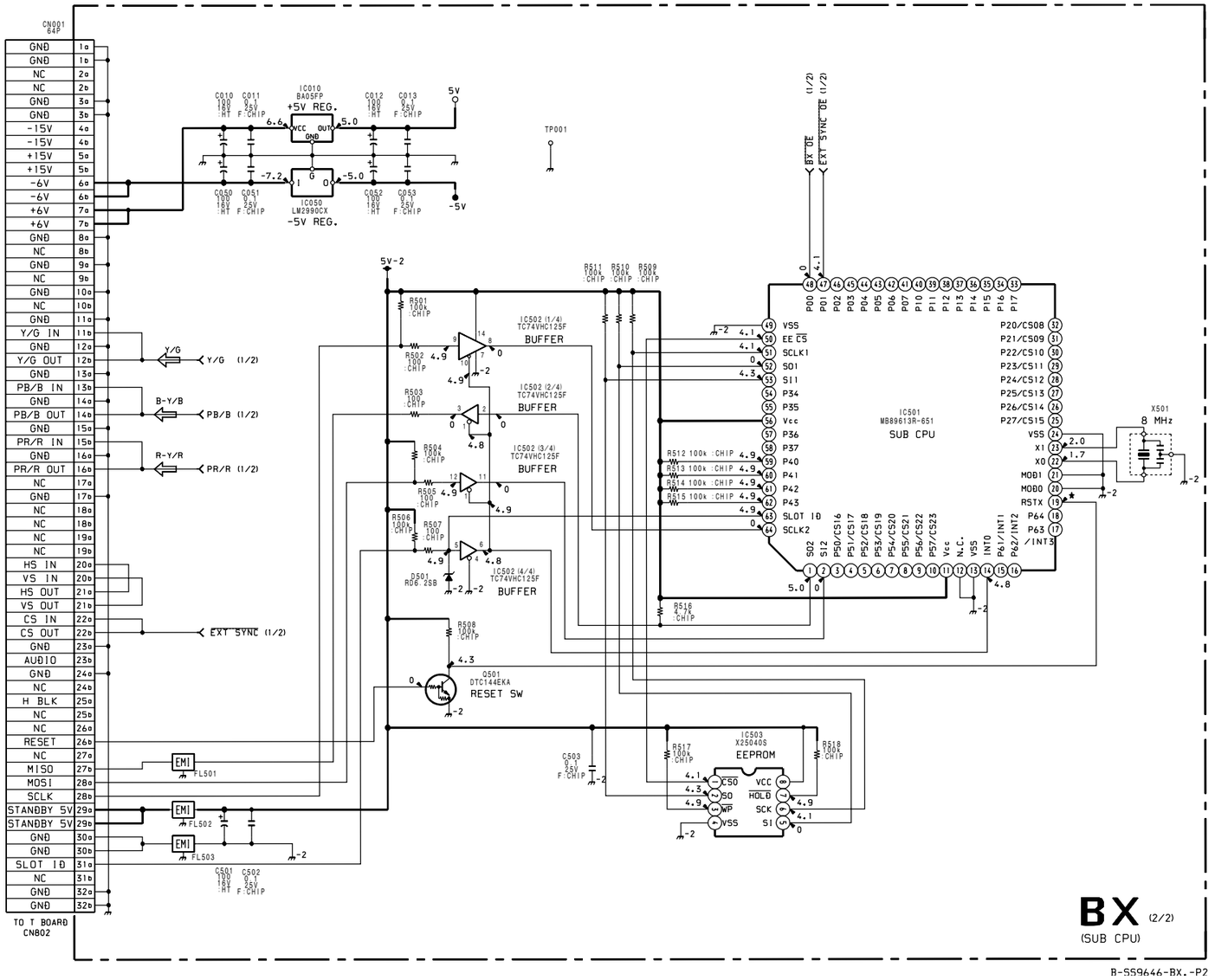


BX –B SIDE–
SUFFIX: -11

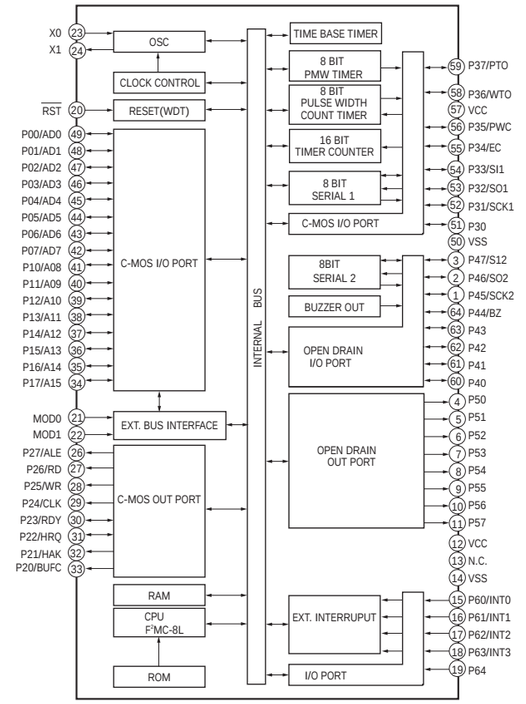
BX BOARD WAVEFORMS

①	2.0Vp-p (H)
②	1.4Vp-p (H)
③	1.4Vp-p (H)
④	0.9Vp-p (H)
⑤	0.6Vp-p (H)
⑥	0.6Vp-p (H)

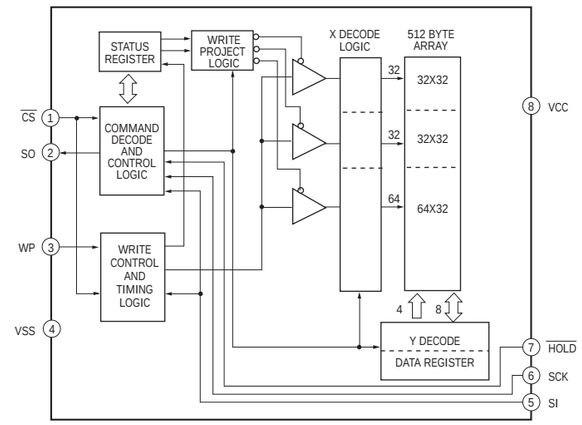




MB89613R-651 (IC501)



X25040S (IC503)

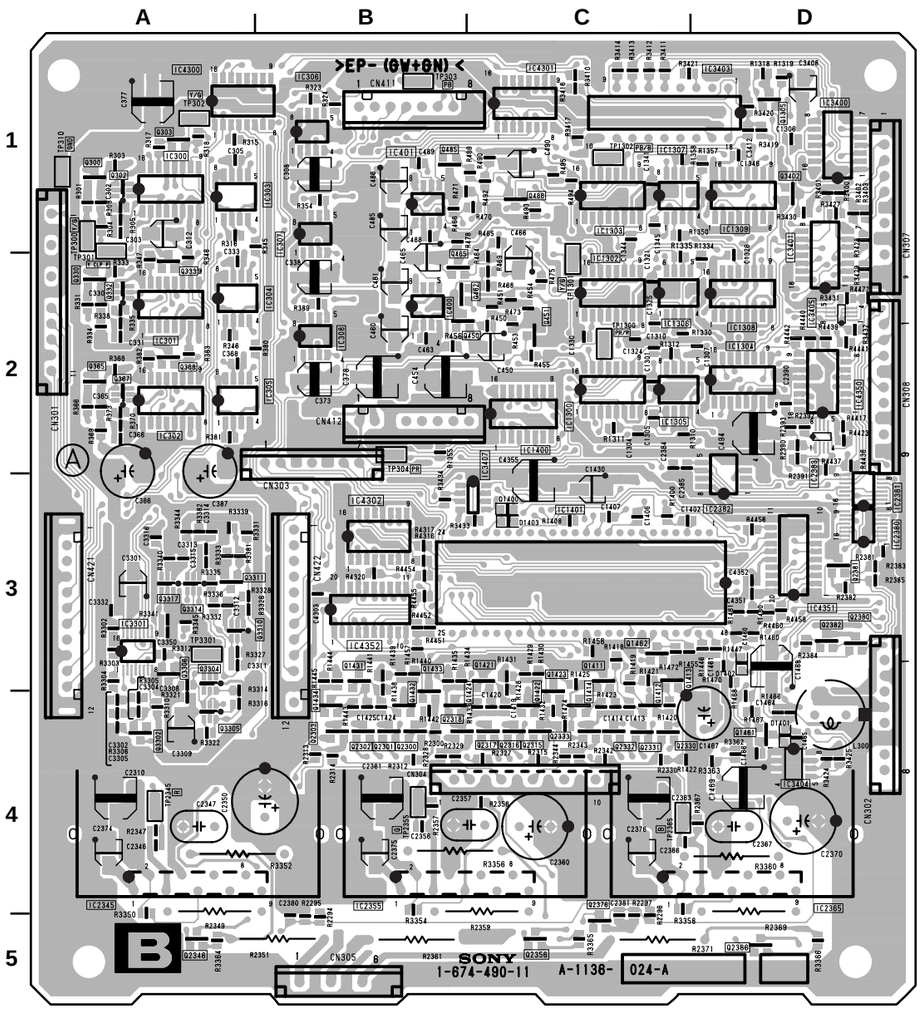


[B BOARD]

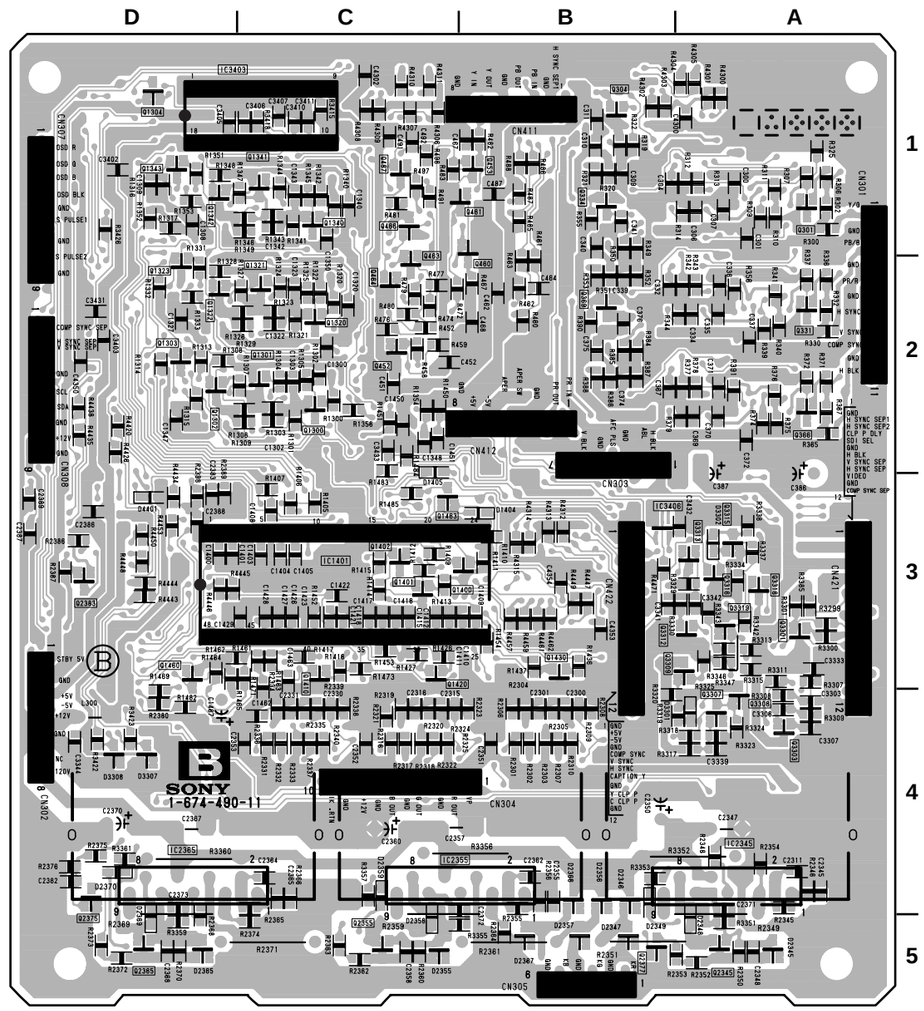
* : B SIDE

D1400	C-3	Q460	* B-1	TP300	A-1
D1401	D-4	Q461	* B-1	TP301	A-1
D1402	D-3	Q462	B-2	TP302	A-1
D1403	C-3	Q463	* C-1	TP303	B-1
D1404	* B-3	Q464	* C-2	TP304	B-2
D1405	* C-3	Q465	B-2	TP310	A-1
D2345	* A-5	Q466	* C-1	TP1300	C-2
D2346	* B-4	Q485	B-1	TP1301	C-2
D2347	* B-5	Q486	C-1	TP1302	C-1
D2348	* A-5	Q487	* C-1	TP2345	A-4
D2349	* B-5	Q1300	* C-2	TP2355	B-4
D2355	* C-5	Q1301	* C-2	TP2365	C-4
D2356	* B-4	Q1302	* D-2	TP3301	A-3
D2357	* B-5	Q1303	* D-2		
D2358	* C-5	Q1304	* D-1		
D2359	* C-4	Q1305	D-1		
D2365	* D-5	Q1320	* C-2		
D2366	* B-4	Q1321	* C-2		
D2367	* B-5	Q1322	* D-2		
D2369	* D-5	Q1323	* D-2		
D2370	* D-4	Q1340	* C-1		
D3301	* B-4	Q1341	* C-1		
D3302	* A-3	Q1342	* D-1		
D3307	* D-4	Q1343	* D-1		
D3308	* D-4	Q1400	* C-3		
D4401	* D-3	Q1401	C-3		
		Q1402	* C-3		
IC300	A-1	Q1410	* C-3		
IC301	A-2	Q1411	C-3		
IC302	A-2	Q1412	C-4		
IC303	A-1	Q1413	C-3		
IC304	A-2	Q1414	C-4		
IC305	A-2	Q1420	* C-3		
IC306	B-1	Q1421	C-3		
IC307	B-1	Q1422	C-4		
IC308	B-2	Q1423	C-3		
IC400	B-2	Q1424	C-4		
IC401	B-1	Q1430	* B-3		
IC1300	C-2	Q1431	B-3		
IC1302	C-2	Q1432	B-4		
IC1303	C-1	Q1433	B-3		
IC1304	D-2	Q1434	B-4		
IC1305	C-2	Q1460	* D-3		
IC1306	C-2	Q1461	D-4		
IC1307	C-1	Q1462	C-3		
IC1308	D-2	Q1463	* C-3		
IC1309	D-1	Q2300	B-4		
IC1400	C-2	Q2301	B-4		
IC1401	* C-3	Q2302	B-4		
IC2345	A-4	Q2303	B-4		
IC2355	B-4	Q2315	C-4		
IC2365	D-4	Q2316	C-4		
IC2380	D-3	Q2317	C-4		
IC2381	D-3	Q2318	B-4		
IC2382	D-3	Q2330	D-4		
IC2383	D-2	Q2331	C-4		
IC3301	A-3	Q2332	C-4		
IC3400	D-1	Q2333	C-4		
IC3401	D-1	Q2345	* A-5		
IC3403	D-1	Q2346	A-4		
IC3404	D-4	Q2355	* C-5		
IC3405	D-2	Q2356	C-5		
IC3406	* B-3	Q2365	* D-5		
IC3407	C-2	Q2366	D-5		
IC4300	A-1	Q2375	* D-5		
IC4301	C-1	Q2376	C-4		
IC4302	B-3	Q2377	* B-5		
IC4350	D-2	Q2380	D-3		
IC4351	D-3	Q2381	D-3		
IC4352	B-3	Q2382	D-3		
		Q2383	* D-3		
Q300	A-1	Q3301	* A-3		
Q301	* A-1	Q3302	A-4		
Q302	A-1	Q3303	* A-4		
Q303	A-1	Q3304	A-3		
Q304	* B-1	Q3305	A-4		
Q330	A-2	Q3306	A-3		
Q331	* A-2	Q3307	* A-4		
Q332	A-2	Q3308	* A-4		
Q333	A-2	Q3309	* B-3		
Q334	* B-1	Q3310	A-3		
Q365	A-2	Q3311	A-3		
Q366	* A-2	Q3312	* B-3		
Q367	A-2	Q3313	* A-3		
Q368	A-2	Q3314	A-3		
Q369	* B-2	Q3315	* A-3		
Q450	B-2	Q3316	* A-3		
Q451		Q3317	A-3		
Q452	* C-2	Q3318	* A-3		
Q453	* B-1	Q3319	* A-3		
		Q3402	D-1		

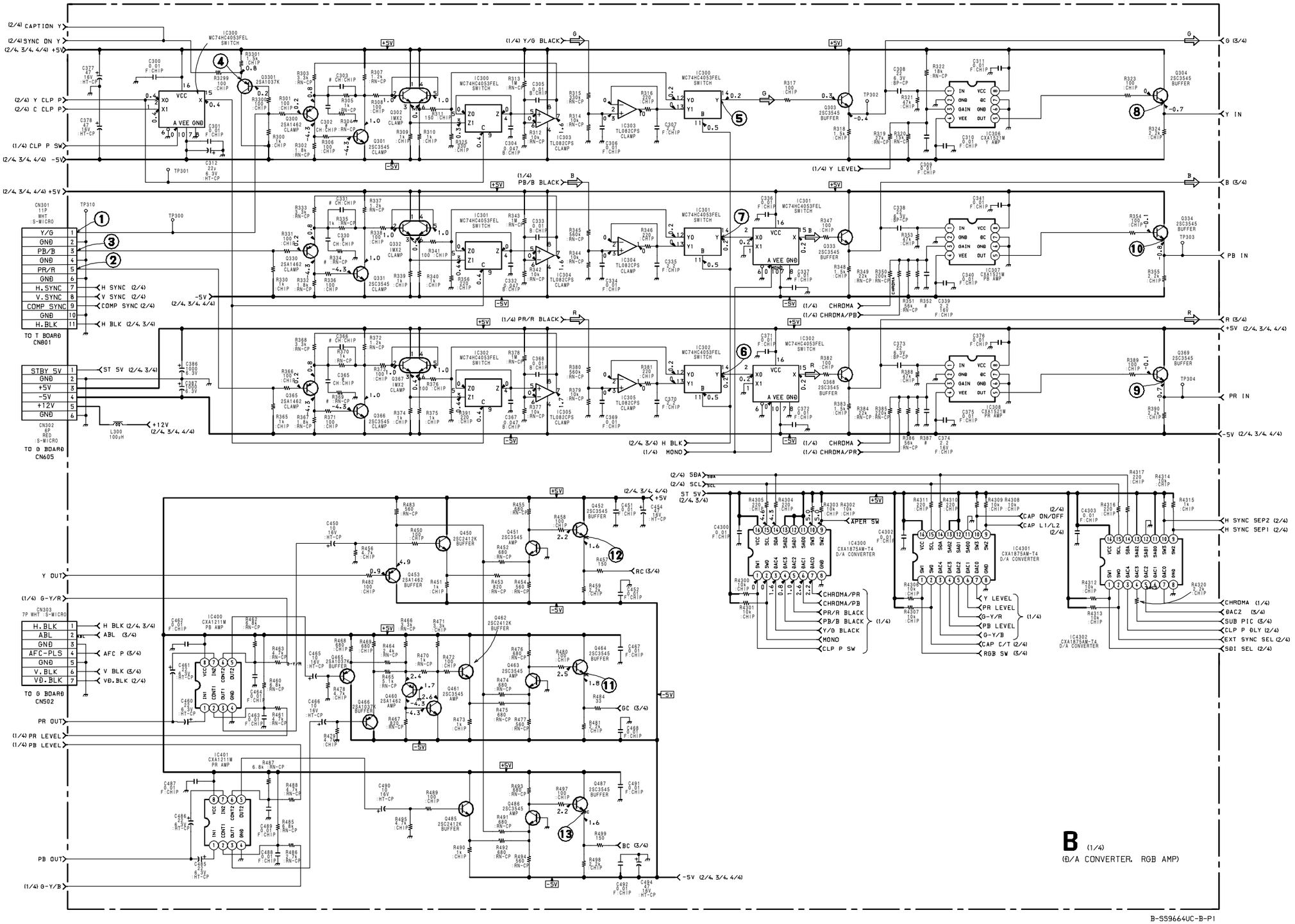
B BOARD

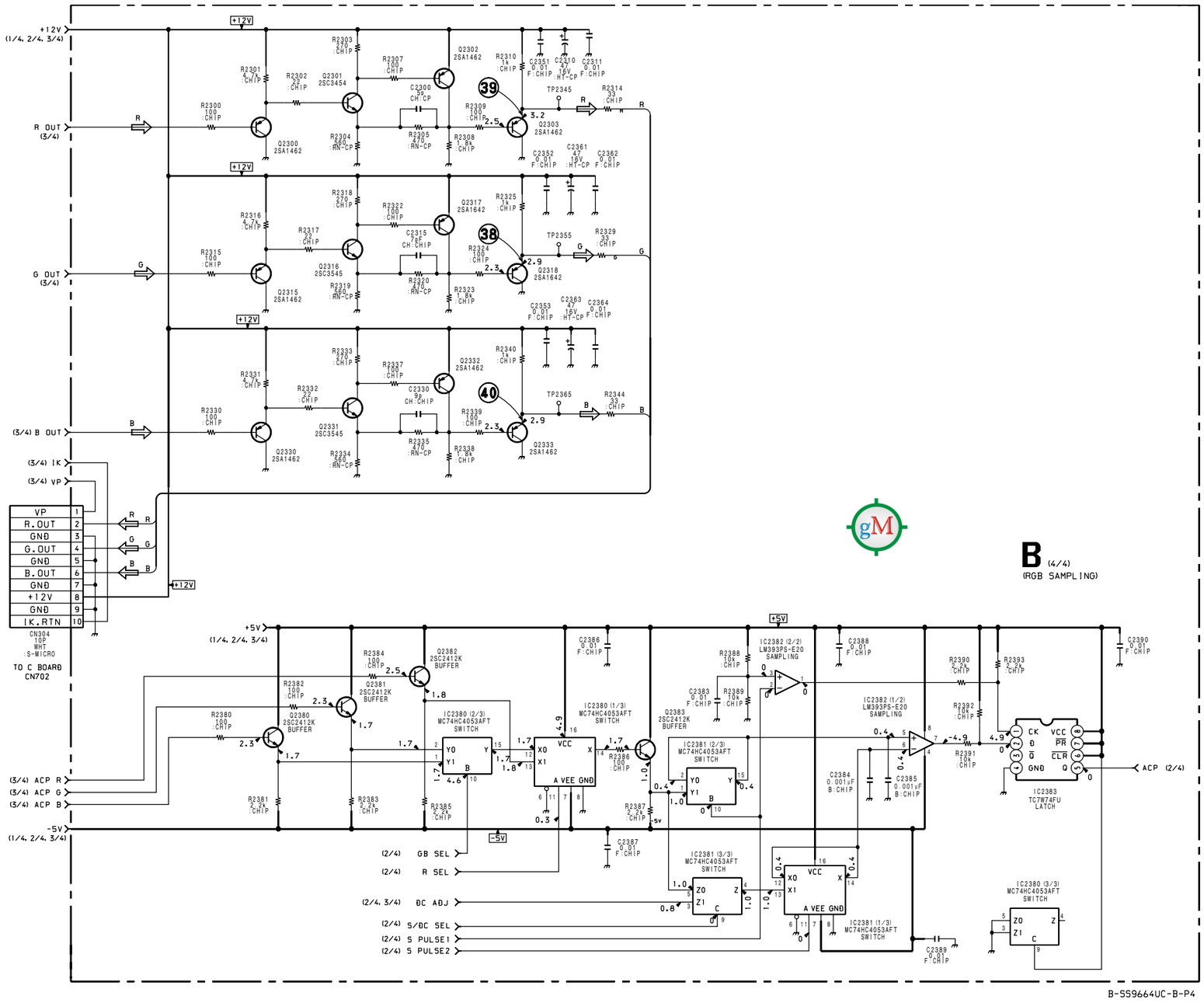


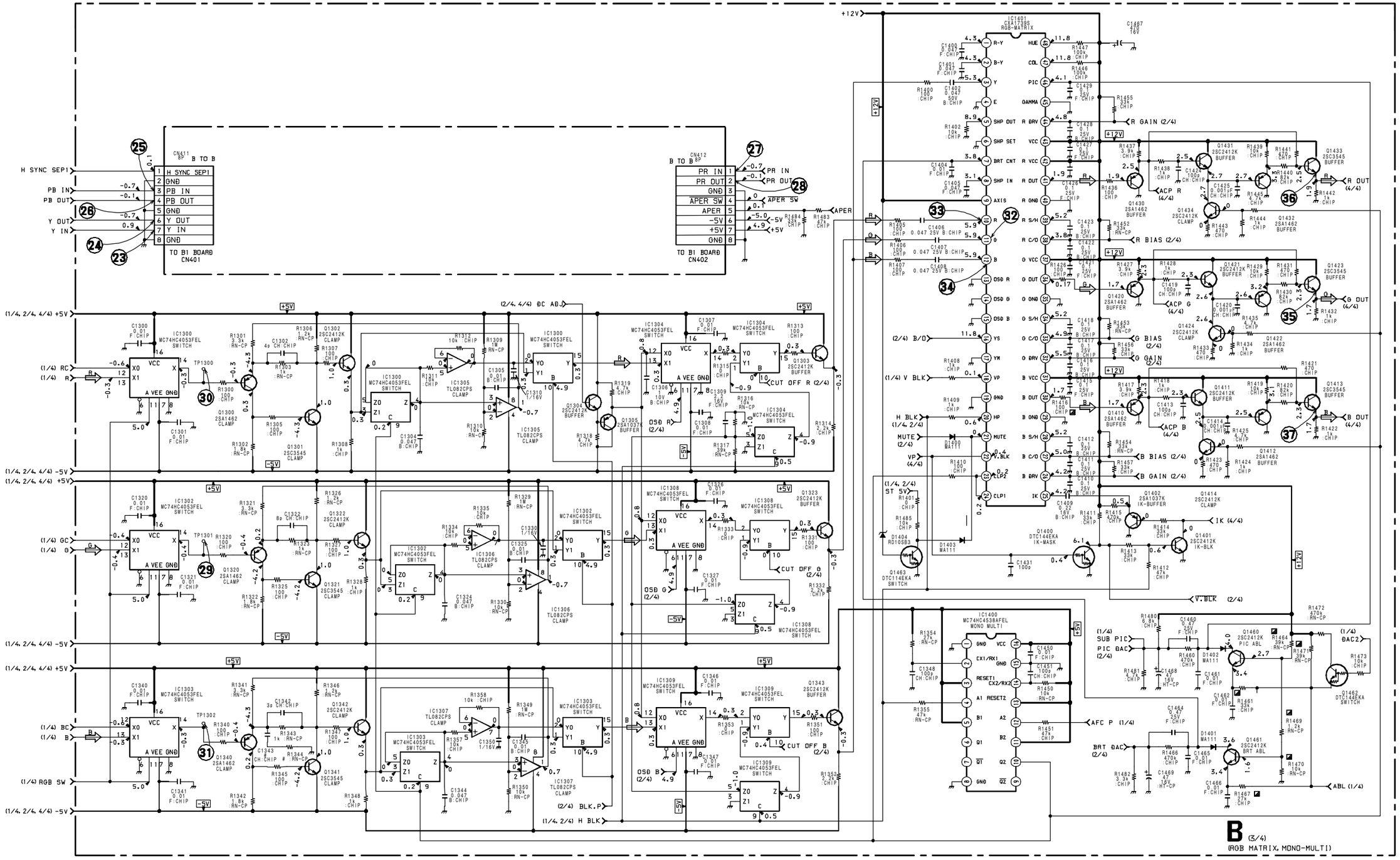
B –A SIDE–
SUFFIX: -11

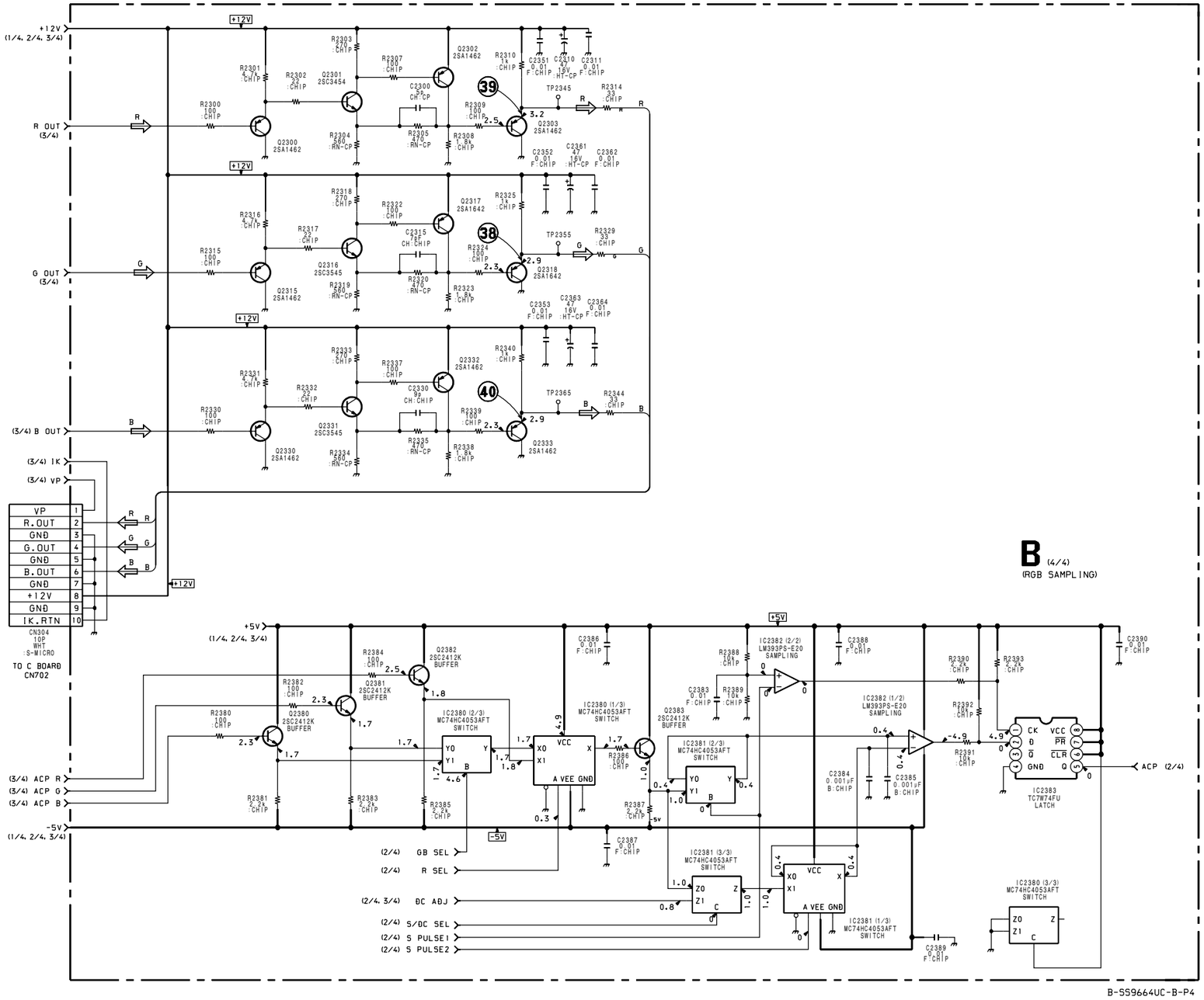


B –B SIDE–
SUFFIX: -11

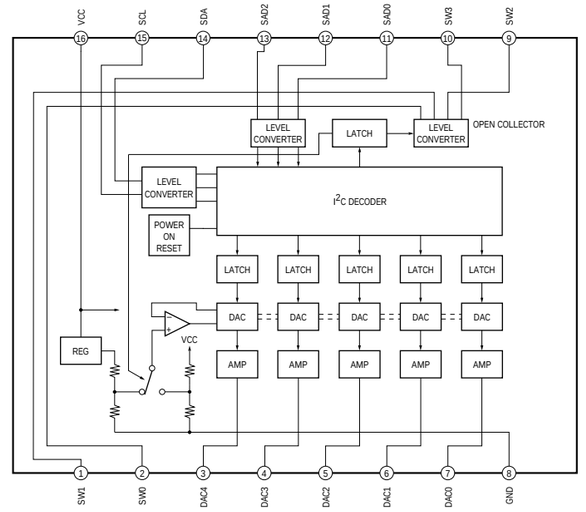

(2/4) CAPTION Y
(2/4) SYNC ON Y
(2/4, 3/4, 4/4) +5V
(2/4) Y CLP P
(2/4) C CLP P
(1/4) CLP P SW
(2/4, 3/4, 4/4) -5V
(1/4) Y/G BLACK
(1/4) PB/B BLACK
(1/4) PR/R BLACK
G (3/4)
B (3/4)
R (3/4)
Y IN
PB IN
PR IN
(1/4) Y LEVEL
(1/4) CHROMA
(1/4) CHROMA/PB
(1/4) CHROMA/PR
(2/4, 3/4) H BLK
(1/4) MONO
CN301 11P WHT S-MICRO
Y/G
GND
PB/B
PR/R
H. SYNC
V. SYNC
COMP SYNC
H. BLK
H SYNC (2/4)
V SYNC (2/4)
COMP SYNC (2/4)
H BLK (2/4, 3/4)
TO T BOARD CN801
STBY 5V
+5V
-5V
+12V
ST 5V (2/4, 3/4)
+12V (2/4, 3/4, 4/4)
CN302 6P RED S-MICRO
TO G BOARD CN605
(2/4) SDA
(2/4) SCL
ST 5V (2/4, 3/4)
APER SW
CAP ON/OFF
CAP L1/L2 (2/4)
IC4300 CXA1875AM-T4 D/A CONVERTER
IC4301 CXA1875AM-T4 D/A CONVERTER
IC4302 CXA1875AM-T4 D/A CONVERTER
CHROMA/PR
CHROMA/PB
PR/R BLACK
PB/B BLACK
Y/G BLACK
MONO
CLP P SW
(1/4)
Y LEVEL
PR LEVEL
G-Y/R
PB LEVEL
G-Y/B
CAP C/T (2/4)
RGB SW (3/4)
H SYNC SEP2 (2/4)
H SYNC SEP1 (2/4)
CHROMA (1/4)
DAC2 (3/4)
SUB PIC (3/4)
CLP P DLY (2/4)
EXT SYNC SEL (2/4)
SBI SEL (2/4)
Y OUT
(1/4) G-Y/R
CN303 7P WHT S-MICRO
H. BLK
ABL
GND
AFC-PLS
V. BLK
VD. BLK
H BLK (2/4, 3/4)
ABL (3/4)
AFC P (3/4)
V BLK (3/4)
VD. BLK (2/4)
TO G BOARD CN502
PR OUT
(1/4) PR LEVEL
(1/4) PB LEVEL
PB OUT
(1/4) G-Y/B
-5V (2/4, 3/4, 4/4)
B (1/4)
(D/A CONVERTER, RGB AMP)
B-SS9664UC-B-P1


+12V
(1/4, 2/4, 3/4)
R OUT
(3/4)
G OUT
(3/4)
(3/4) B OUT
(3/4) IK
(3/4) VP
VP 1
R.OUT 2
GND 3
G.OUT 4
GND 5
B.OUT 6
GND 7
+12V 8
GND 9
IK.RTN 10
CN304
10P
WHT
:S-MICRO
TO C BOARD
CN702
B (4/4)
(RGB SAMPLING)
+5V
(1/4, 2/4, 3/4)
-5V
(1/4, 2/4, 3/4)
(3/4) ACP R
(3/4) ACP G
(3/4) ACP B
(2/4) GB SEL
(2/4) R SEL
(2/4, 3/4) DC ADJ
(2/4) S/DC SEL
(2/4) S PULSE1
(2/4) S PULSE2
ACP (2/4)
IC2380 (1/3) MC74HC4053AFT SWITCH
IC2380 (2/3) MC74HC4053AFT SWITCH
IC2380 (3/3) MC74HC4053AFT SWITCH
IC2381 (1/3) MC74HC4053AFT SWITCH
IC2381 (2/3) MC74HC4053AFT SWITCH
IC2381 (3/3) MC74HC4053AFT SWITCH
IC2382 (1/2) LM393PS-E20 SAMPLING
IC2382 (2/2) LM393PS-E20 SAMPLING
IC2383 TC7W74FU LATCH
B-SS9664UC-B-P4

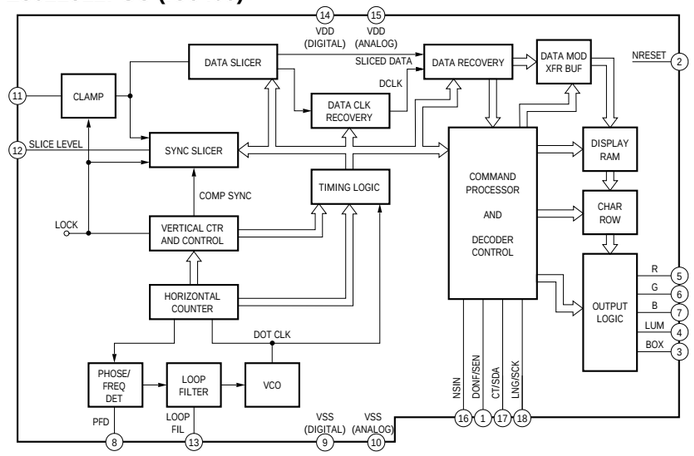

CN411 8P B TO B
1 H SYNC SEP
2 GND
3 PB IN
4 PB OUT
5 GND
6 Y OUT
7 Y IN
8 GND
TO B1 BOARD CN401
CN412 8P B TO B
PR IN 1
PR OUT 2
GND 3
APER SW 4
APER 5
-5V 6
+5V 7
GND 8
TO B1 BOARD CN402
IC1401 CXA1799S RGB-MATRIX
IC1400 MC74HC4538AFEL MONO MULTI
IC1300 MC74HC4053FEL SWITCH
IC1301 TL082CPS CLAMP
IC1302 MC74HC4053FEL SWITCH
IC1303 MC74HC4053FEL SWITCH
IC1304 MC74HC4053FEL SWITCH
IC1305 TL082CPS CLAMP
IC1306 TL082CPS CLAMP
IC1307 TL082CPS CLAMP
IC1308 MC74HC4053FEL SWITCH
IC1309 MC74HC4053FEL SWITCH
+12V
+5V
-5V
(1/4, 2/4, 4/4) +5V
(1/4, 2/4, 4/4) -5V
(2/4, 4/4) BC AB
(1/4) RC
(1/4) R
(1/4) GC
(1/4) G
(1/4) BC
(1/4) B
(1/4) RGB SW
(2/4) BLK.P
(1/4, 2/4) H BLK
R GAIN (2/4)
R BIAS (2/4)
G GAIN (2/4)
G BIAS (2/4)
B GAIN (2/4)
B BIAS (2/4)
IK (4/4)
V.BLK (2/4)
R OUT (4/4)
G OUT (4/4)
B OUT (4/4)
ACP R (4/4)
ACP G (4/4)
ACP B (4/4)
CUT OFF R (2/4)
CUT OFF G (2/4)
CUT OFF B (2/4)
OSD R (2/4)
OSD G (2/4)
OSD B (2/4)
(2/4) B/D
(1/4) V BLK
H BLK (1/4, 2/4)
MUTE (2/4)
VP (4/4)
(1/4, 2/4) ST 5V
(1/4) SUB PIC
PIC DAC (2/4)
DAC2
AFC P (1/4)
BRT DAC (2/4)
ABL (1/4)
APER
B (3/4)
(RGB MATRIX, MONO-MULTI)
B-5596644UC-B-P3



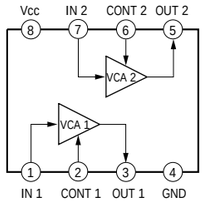
CXA1875AM (IC4300, 4301, 4302, 4350)



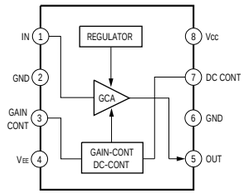
Z8622812PSC (IC3403)



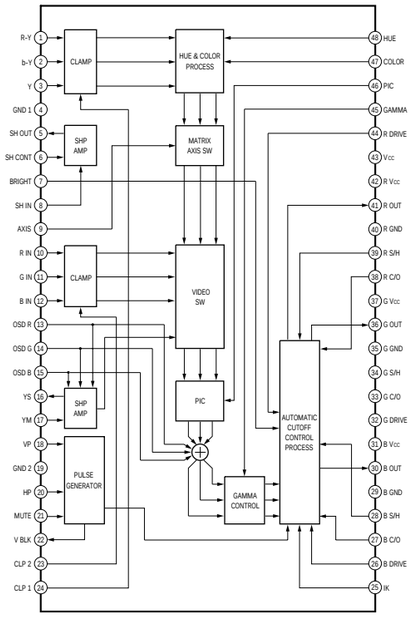
CXA1211M (IC400, 401)



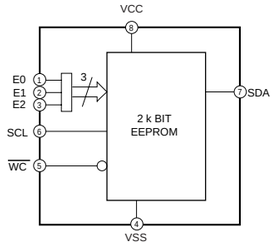
CXA1521M (IC306, 307, 308)



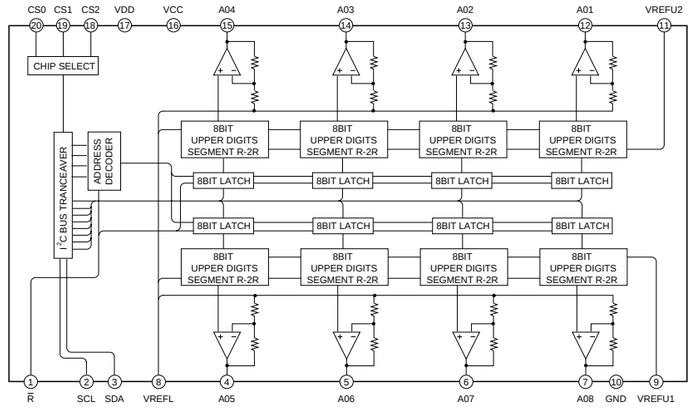
CXA1739S (IC1401)



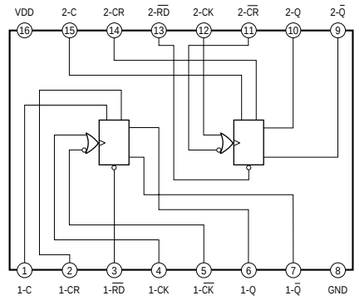
M24C02-MN6T (IC3404)



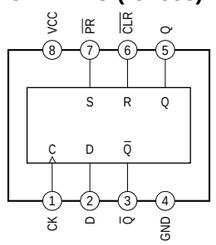
M62399FP-TE2 (IC4351, 4352)



MC74HC4538AFEL (IC1400)

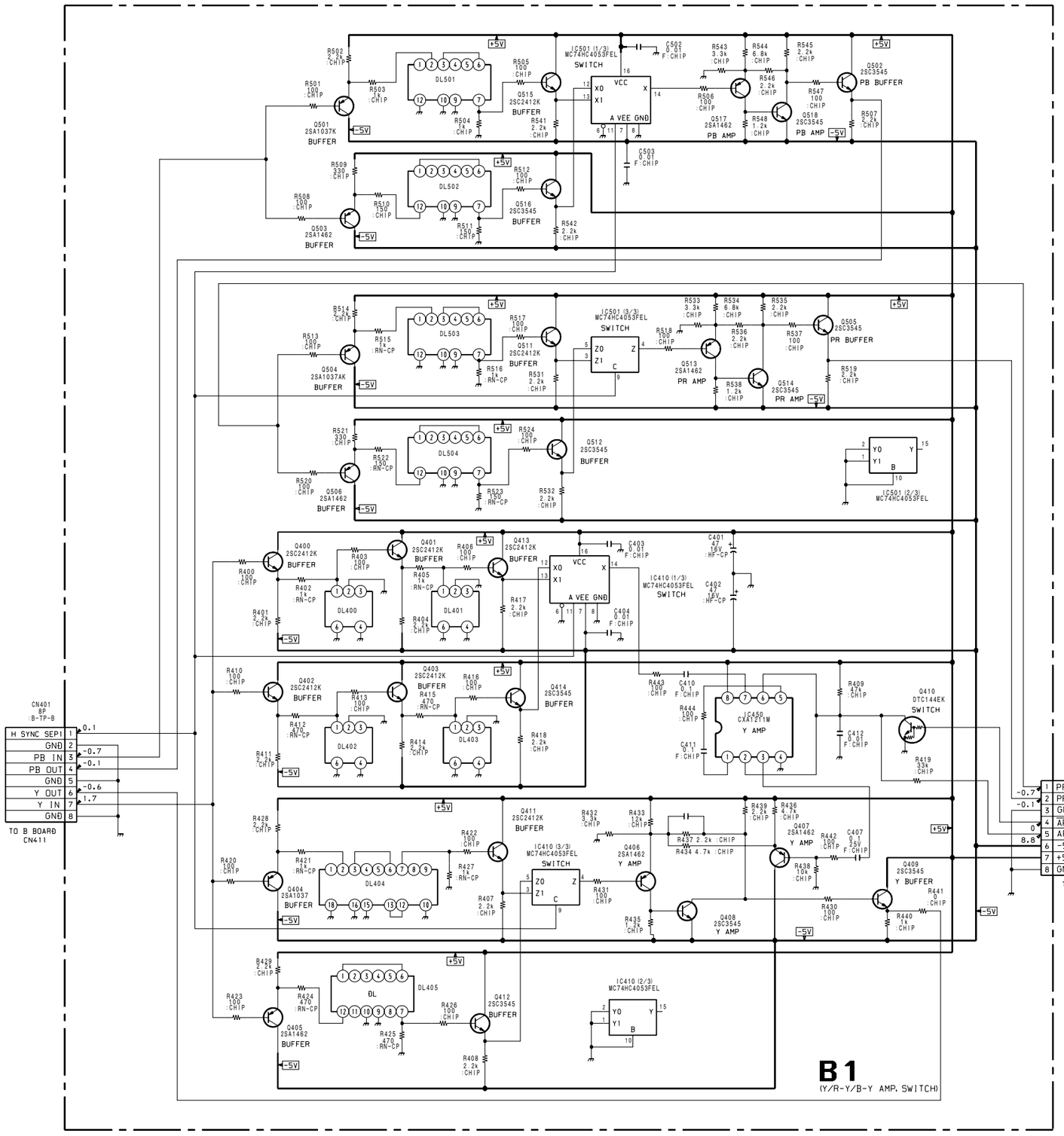


TC7W74FU (IC2383)



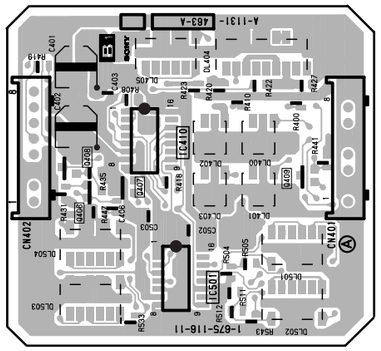
B BOARD WAVEFORMS

① 0.90Vp-p (H)	② 0.60Vp-p (H)	③ 0.60Vp-p (H)	④ 0.90Vp-p (H)
⑤ 0.55Vp-p (H)	⑥ 0.55Vp-p (H)	⑦ 0.55Vp-p (H)	⑧ 0.90Vp-p (H)
⑨ 0.82Vp-p (H)	⑩ 0.85Vp-p (H)	⑪ 1.3Vp-p (H)	⑫ 1.5Vp-p (H)
⑬ 1.5Vp-p (H)	⑭ 5.0Vp-p (H)	⑮ 1.6Vp-p (H)	⑯ 1.4Vp-p (H)
⑰ 4.2Vp-p (V)	⑱ 4.0Vp-p (H)	⑲ 1.8Vp-p (H)	⑳ 4.0Vp-p (V)
㉑ 4.0Vp-p (H)	㉒ 4.2Vp-p (V)	㉓ 0.80Vp-p (H)	㉔ 0.80Vp-p (H)
㉕ 0.90Vp-p (H)	㉖ 0.50Vp-p (H)	㉗ 0.80Vp-p (H)	㉘ 0.50Vp-p (H)
㉙ 1.1Vp-p (H)	㉚ 0.5Vp-p (H)	㉛ 0.5Vp-p (H)	㉜ 1.4Vp-p (H)
㉝ 0.65Vp-p (H)	㉞ 0.70Vp-p (H)	㉟ 2.4Vp-p (H)	㊱ 2.2Vp-p (H)
㊲ 2.1Vp-p (H)	㊳ 4Vp-p (H)	㊴ 3.4Vp-p (H)	㊵ 3.0Vp-p (H)

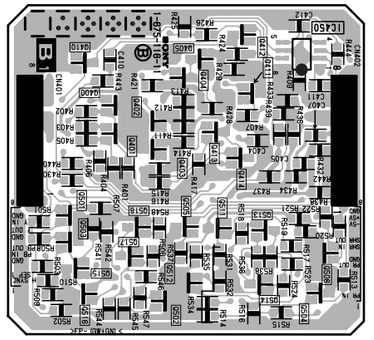


B-SS9668UC-B1.

B1 BOARD

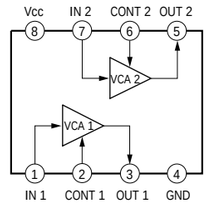


B1 –A SIDE–
SUFFIX: -11

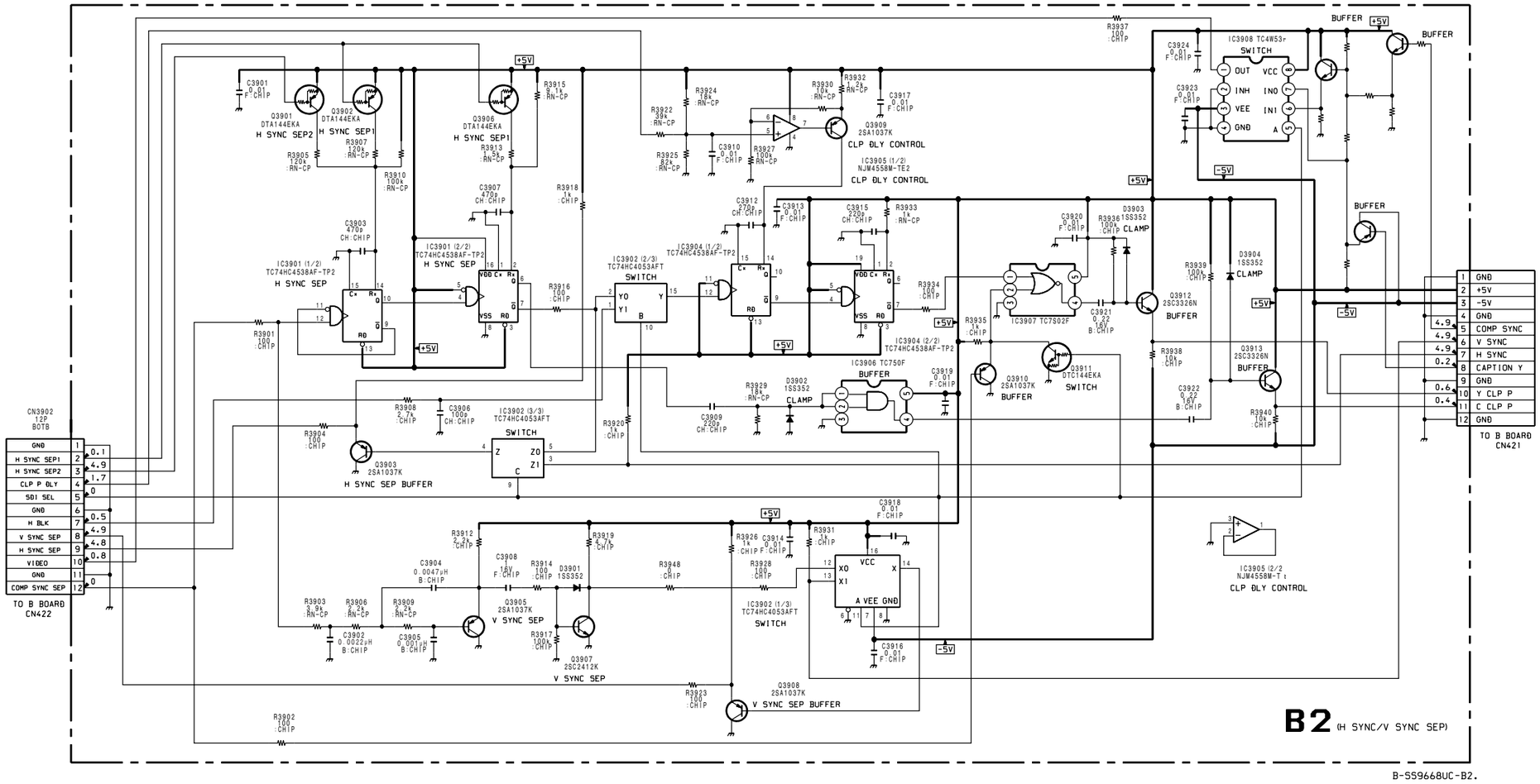


B1 –B SIDE–
SUFFIX: -11

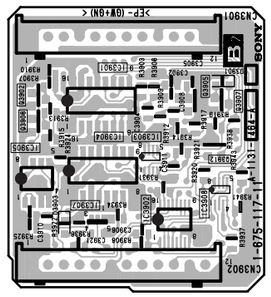
CXA1211M (IC450)



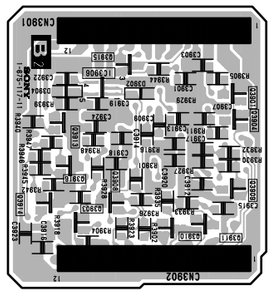
http://getMANUAL.com



B2 BOARD

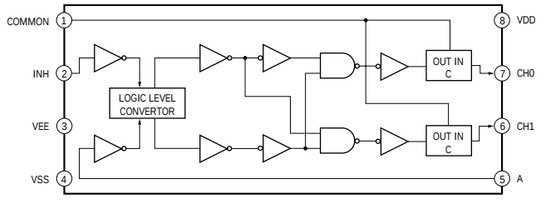


B2 –A SIDE–
SUFFIX: -11

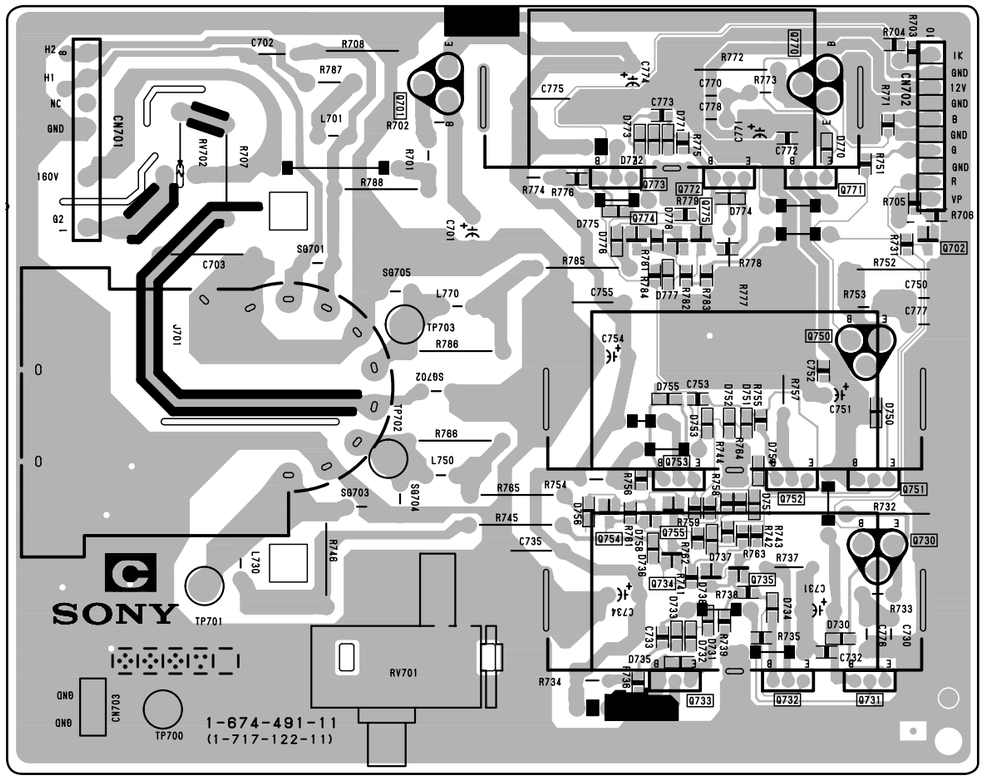


B2 –B SIDE–
SUFFIX: -11

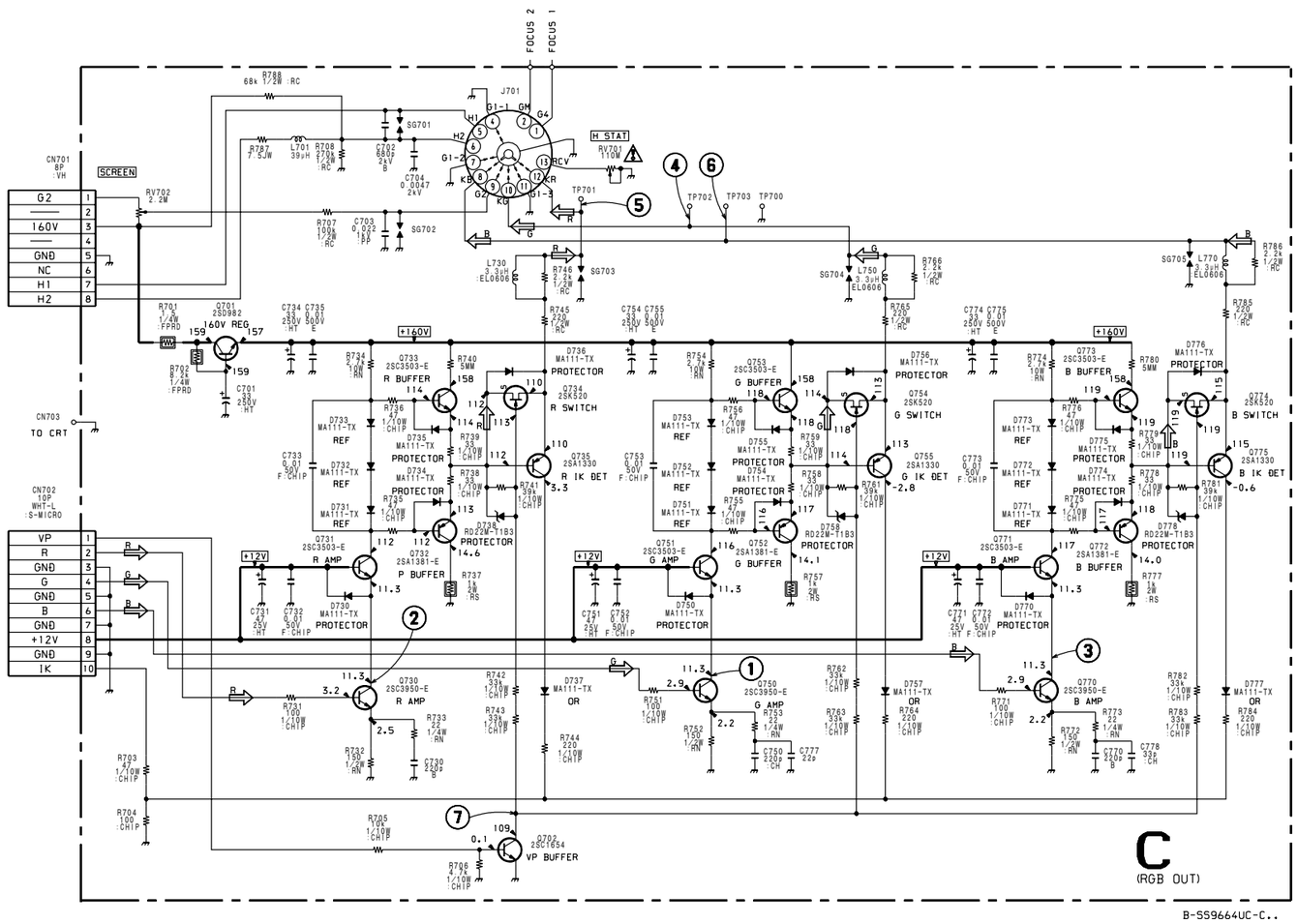
TC4W53FU (IC3908)



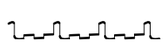
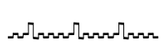
C BOARD



C –B SIDE–
SUFFIX: -11



C BOARD WAVEFORMS

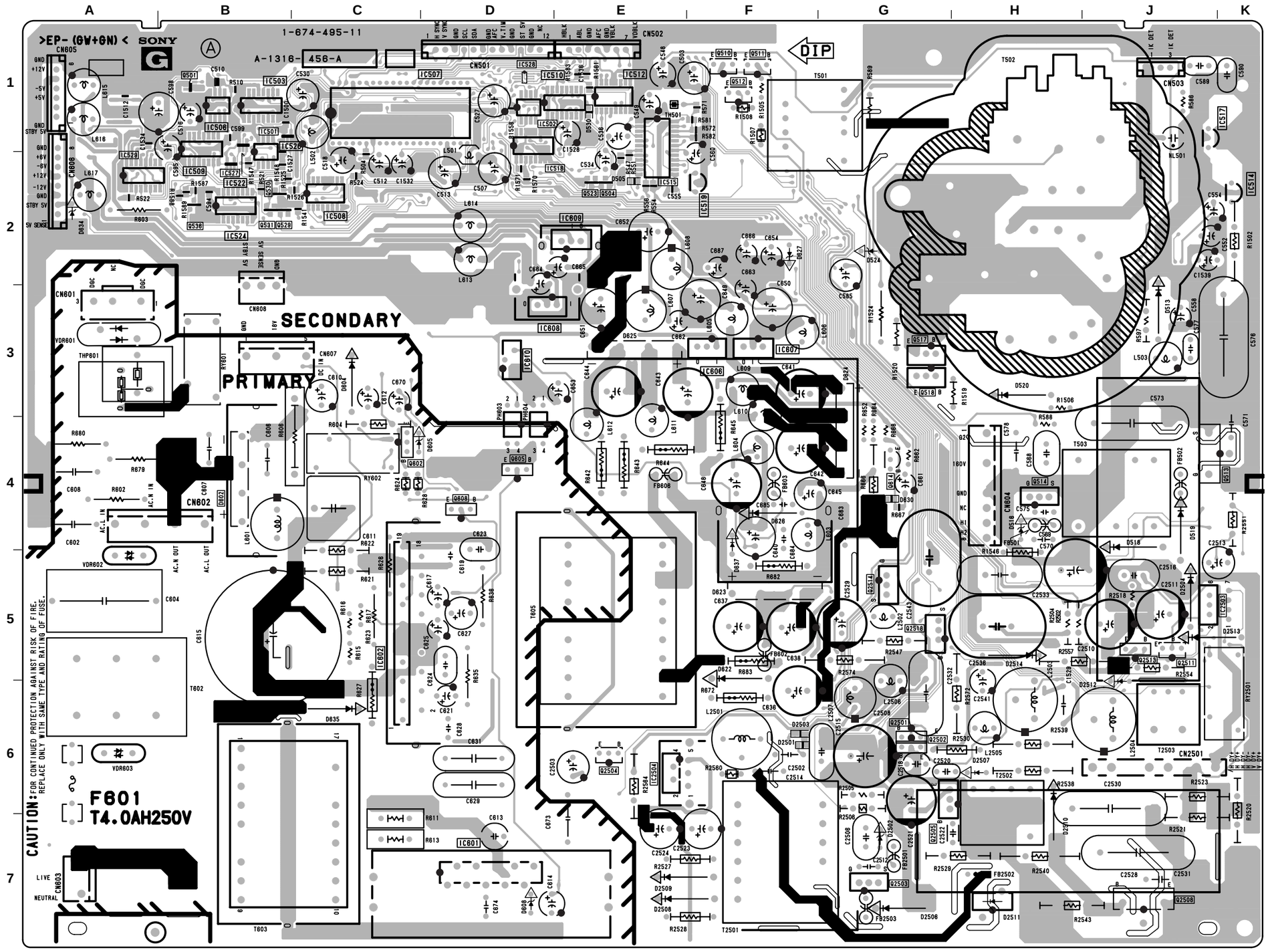
①  0.1Vp-p (H)	②  0.1Vp-p (H)	③  0.1Vp-p (H)	④  56Vp-p (H)
⑤  61Vp-p (H)	⑥  54Vp-p (H)	⑦  55Vp-p (H)	

[G BOARD]

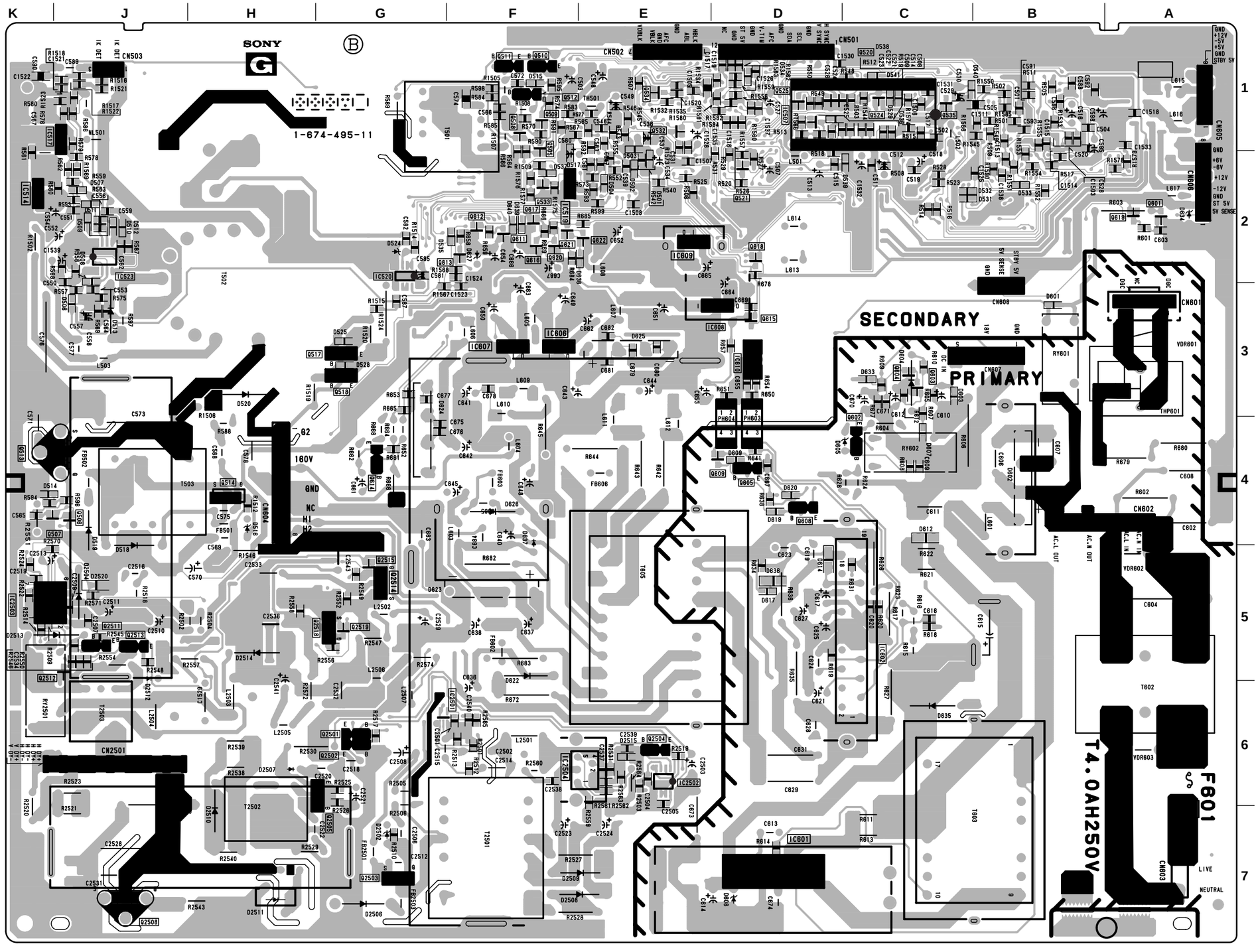
* : B-SIDE

D2501	F-6	IC506	B-1
D2502	G-7	IC507	C-1
D2503	F-6	IC508	C-2
D2504	J-5	IC509	B-2
D2506	G-7	IC510	E-1
D2507	H-6	IC512	E-1
D2508	E-7	IC514	K-2
D2509	E-7	IC515	E-1
D2510	H-7	IC516	D-1
D2511	H-7	IC517	K-1
D2512	J-6	IC519	F-2
D2513	K-5	IC520	* G-2
D2514	H-5	IC522	B-1
D2515	* E-6	IC523	* J-2
D2520	* J-5	IC524	B-2
D501	* E-2	IC526	B-1
D502	* E-2	IC527	B-2
D503	* E-2	IC528	D-1
D504	* E-2	IC529	A-2
D505	E-2	IC601	D-7
D506	* J-3	IC602	C-5
D507	* J-2	IC606	F-3
D508	* J-2	IC607	F-3
D509	* J-2	IC608	D-3
D510	* J-2	IC609	E-2
D511	* J-2	IC610	D-3
D512	* J-2		
D513	J-3	Q2501	G-6
D514	* K-4	Q2502	G-6
D515	* F-1	Q2503	G-7
D516	H-4	Q2504	E-6
D517	* F-2	Q2505	G-6
D518	J-4	Q2508	J-7
D519	J-4	Q2511	J-5
D520	H-3	Q2513	J-5
D524	G-2	Q2514	G-5
D525	* G-3	Q2515	* G-5
D529	* C-1	Q2518	G-5
D530	E-1	Q2519	* G-5
D531	* C-2	Q501	B-1
D532	* C-2	Q504	E-2
D533	* B-2	Q505	* F-1
D534	* D-1	Q506	* J-4
D535	* F-2	Q507	* K-4
D536	* C-1	Q508	* F-1
D537	* F-2	Q509	* F-1
D538	* C-1	Q510	F-1
D539	* C-2	Q511	F-1
D540	* B-1	Q512	F-1
D601	* B-3	Q513	K-4
D602	B-4	Q514	H-4
D603	* C-3	Q517	G-3
D604	C-3	Q518	G-3
D605	C-4	Q520	* C-1
D607	* C-4	Q521	* D-2
D608	D-7	Q523	E-2
D609	* D-4	Q524	* C-1
D612	* C-4	Q525	* D-1
D614	* D-5	Q529	B-2
D617	* D-5	Q530	B-2
D619	* D-4	Q531	B-2
D620	* D-4	Q532	* E-1
D622	F-5	Q533	* F-2
D623	F-5	Q534	* E-1
D624	G-4	Q535	* C-1
D625	D-3	Q536	B-2
D626	F-4	Q601	* A-2
D627	F-2	Q602	C-4
D633	* C-3	Q603	* C-3
D634	A-2	Q604	* C-3
D635	C-6	Q605	D-4
D636	* D-5	Q608	D-4
D637	F-4	Q609	* D-4
D638	* E-2	Q611	* F-2
D639	* F-2	Q612	* F-2
D640	* F-2	Q613	* F-2
		Q614	G-4
IC2501	* F-6	Q615	* D-3
IC2502	* E-6	Q616	* F-2
IC2503	K-5	Q617	* F-2
IC2504	E-6	Q618	* D-2
IC501	B-1	Q619	* A-2
IC502	D-1	Q620	* F-2
IC503	B-1	Q621	* F-2
		Q622	* E-2

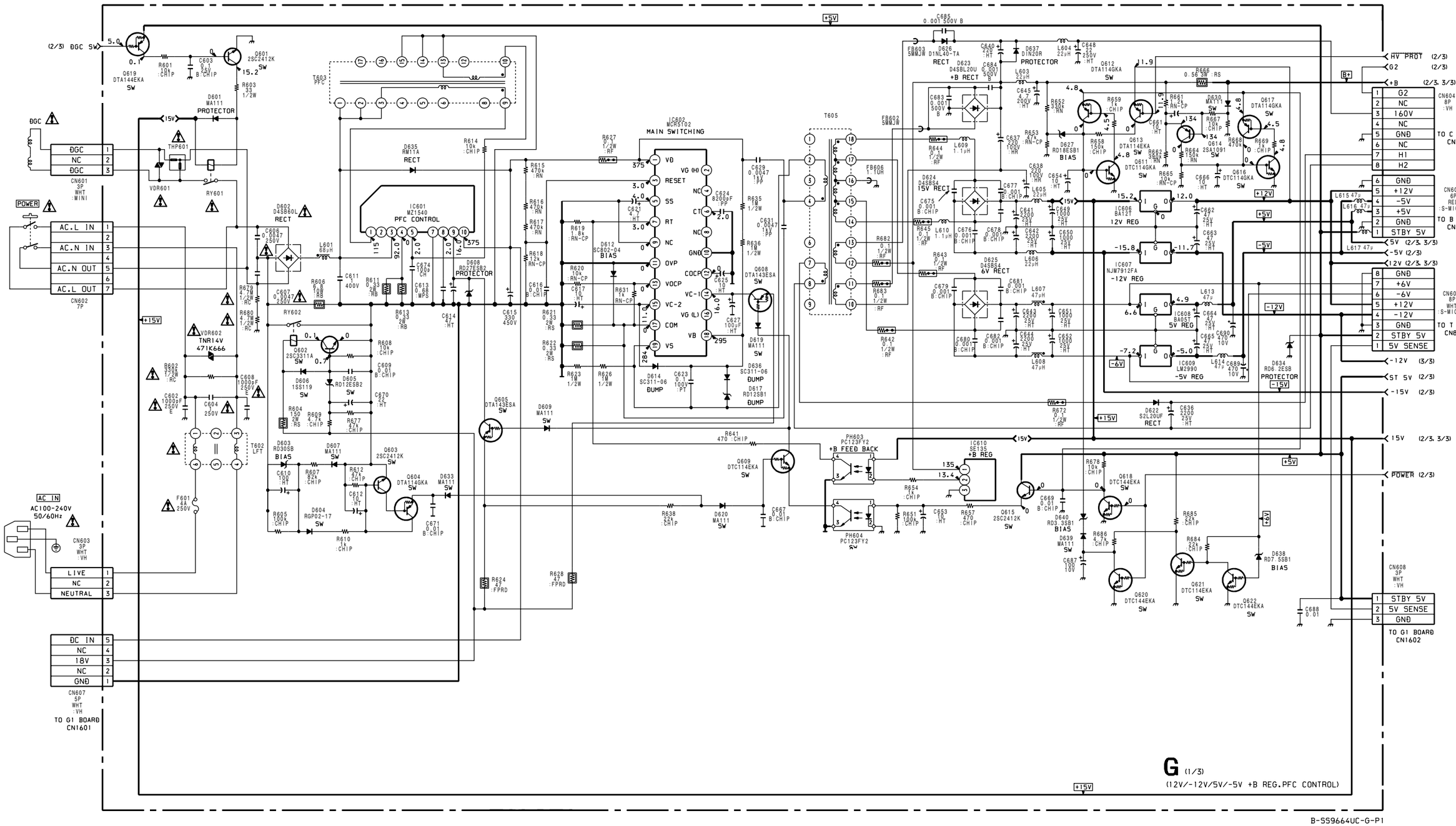
G BOARD

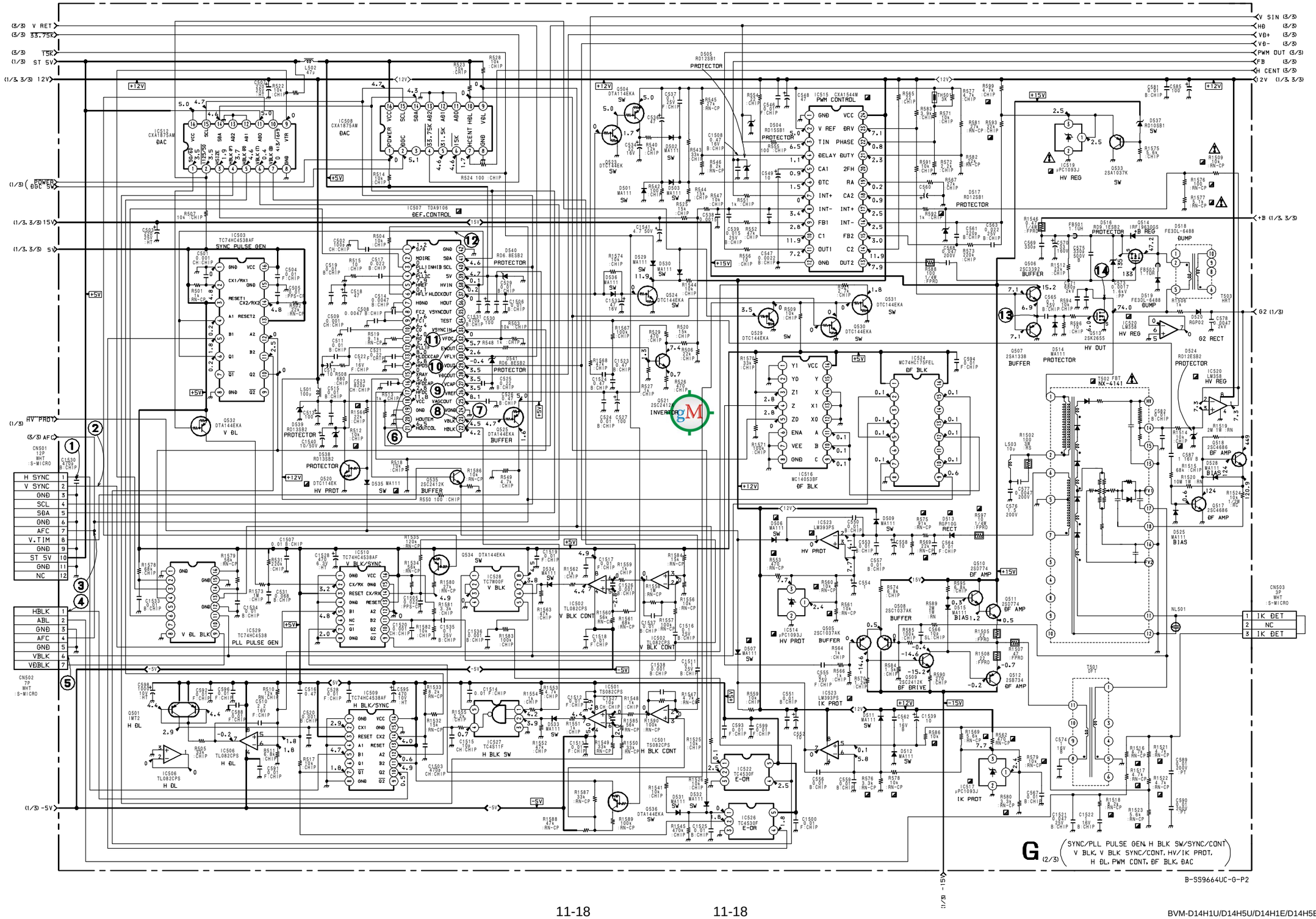


G –A SIDE–
SUFFIX: -11

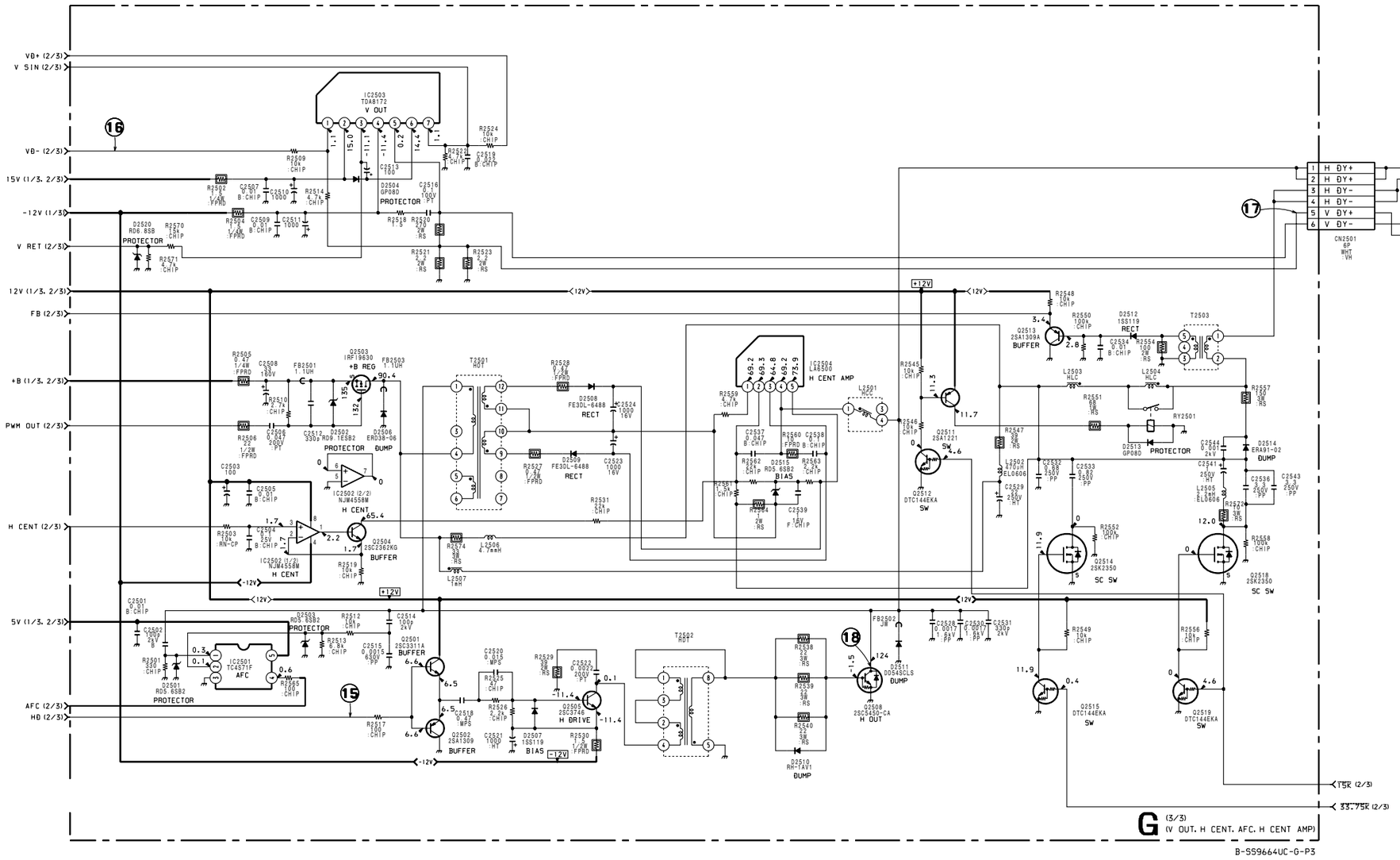


G **–B SIDE–**
SUFFIX: -11


G (1/3)
(12V/-12V/5V/-5V +B REG.PFC CONTROL)
B-5S9664UC-G-P1
CN601 3P WHT :MINI
CN602 7P
CN603 3P WHT :VH
CN604 8P WHT :VH
CN605 6P RED :S-MICRO
CN606 6P WHT :S-MICRO
CN607 5P WHT :VH
CN608 3P WHT :VH
TO C BOARD CN701
TO B BOARD CN302
TO G1 BOARD CN1602
TO G1 BOARD CN1601
IC601 MZ1540 PFC CONTROL
IC602 MCR5Y02 MAIN SWITCHING
IC606 BA12T 12V REG
IC607 NJM7912FA -12V REG
IC608 BA05T 5V REG
IC609 LM2990 -5V REG
IC610 SE135 +B REG
T605
T602 LFT
T603 PFC



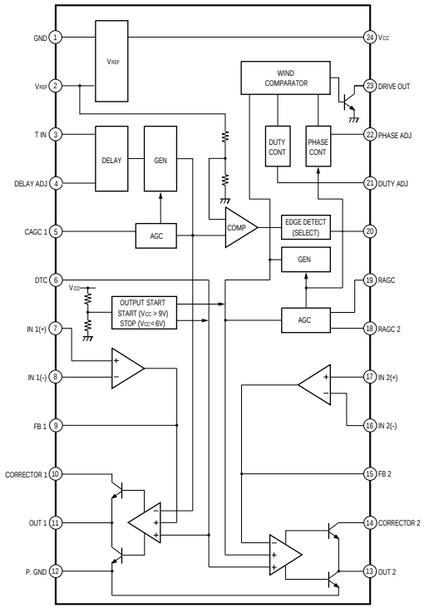
(3/3) V RET
(3/3) 33.75K
(3/3) 15K
(1/3) ST 5V
(1/3, 3/3) 12V
(1/3) POWER DGC SW
(1/3, 3/3) 15V
(1/3, 3/3) 5V
(1/3) HV PROT
(3/3) AFC
(1/3) -5V
V SIN (3/3)
HD (3/3)
VD+ (3/3)
VD- (3/3)
PWM OUT (3/3)
FB (3/3)
H CENT (3/3)
12V (1/3, 3/3)
+B (1/3, 3/3)
G2 (1/3)
(1/3) -15V
IC512 CXA1875AM DAC
IC508 CXA1875AM DAC
IC507 TDA9106 DEF. CONTROL
IC503 TC74HC4538AF SYNC PULSE GEN
IC515 CXA1544M PWM CONTROL
IC524 MC74HC175FEL DF BLK
IC516 MC14053BF DF BLK
IC529 TC74HC4538 PLL PULSE GEN
IC510 TC74HC4538AF V BLK/SYNC
IC528 TC7W00F V BLK
IC502 TL082CPS V BLK CONT
IC509 TC74HC4538AF H BLK/SYNC
IC527 TC4S11F H BLK SW
IC501 TS082CPS H BLK CONT
IC506 TL082CPS H DL
IC522 TC4S30F E-OR
IC526 TC4S30F E-OR
IC523 LM393PS HV PROT
IC523 LM393PS IK PROT
IC514 µPC1093J HV PROT
IC517 µPC1093J IK PROT
IC519 µPC1093J HV REG
IC520 LM358 HV REG
IC520 LM358 G2 RECT
T502 FBT NX-4141
T501 DFT
T503 HRT
CN501 12P WHT S-MICRO
H SYNC
V SYNC
GND
SCL
SDA
GND
AFC
V.TIM
GND
ST 5V
GND
NC
CN502 7P WHT S-MICRO
HBLK
ABL
GND
AFC
GND
VDBLK
CN503 3P WHT S-MICRO
IK DET
NC
IK DET
Q532 DTA144EKA V DL
Q521 2SC2412K INVERTOR
Q525 DTA144EKA BUFFER
Q520 DTC114EK HV PROT
Q535 2SC2412K BUFFER
Q533 2SA1037K SW
Q506 2SC3392 BUFFER
Q507 2SA1338 BUFFER
Q513 2SK2655 HV OUT
Q514 IRF9630GS +B REG
Q518 2SC4686 DF AMP
Q517 2SC4686 DF AMP
Q510 2SD774 DF AMP
Q511 2SD774 DF AMP
Q512 2SB734 DF AMP
Q509 2SC2412K DF DRIVE
Q508 2SC1037AK BUFFER
Q505 2SC1037AK BUFFER
Q536 DTA144EKA SW
Q501 IMT2 H DL
D505 RD12SB1 PROTECTOR
D517 RD12SB1 PROTECTOR
D540 RD6.8ESB2 PROTECTOR
D541 RD6.8ESB2 PROTECTOR
D539 RD13SB2 PROTECTOR
D538 RD13SB2 PROTECTOR
D524 RD12ESB2 PROTECTOR
D514 MA111 PROTECTOR
D519 FE3DL-6488 DUMP
D518 FE3DL-6488 DUMP
D525 MA111 BIAS
D528 MA111 BIAS
D513 RGP10G RECT
G (2/3) (SYNC/PLL PULSE GEN, H BLK SW/SYNC/CONT V BLK, V BLK SYNC/CONT, HV/IK PROT, H DL, PWM CONT, DF BLK, DAC)
B-SS9664UC-G-P2
1
2
3
4
5
A
B
C
D
E
F
G
H



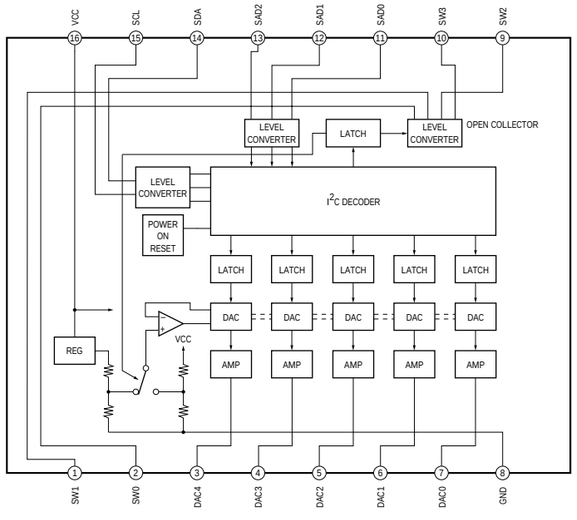
G BOARD WAVEFORMS

① 4.0Vp-p (H)	② 4.0Vp-p (V)
③ 4.7Vp-p (H)	④ 4.9Vp-p (H)
⑤ 4.9Vp-p (V)	⑥ 1.5Vp-p (H)
⑦ 4.8Vp-p (H)	⑧ 5.0Vp-p (V)
⑨ 2.8Vp-p (V)	⑩ 1.4Vp-p (V)
⑪ 4.9Vp-p (V)	⑫ 4.9Vp-p (H)
⑬ 1.2Vp-p (H)	⑭ 500Vp-p (H)
⑮ 10Vp-p (H)	⑯ 2.8Vp-p (V)
⑰ 1.3Vp-p (V)	⑱ 940Vp-p (H)

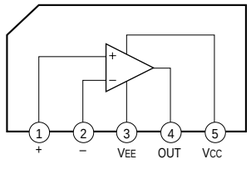
CXA1544M (IC515)



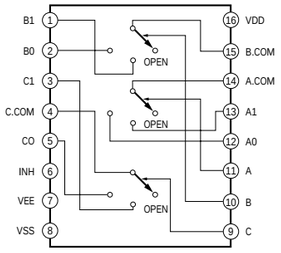
CXA1875AM (IC508, 512)



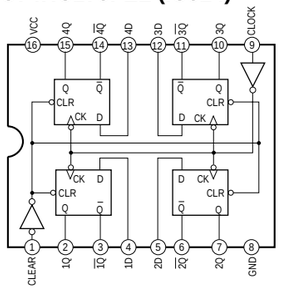
LA6500 (IC2504)



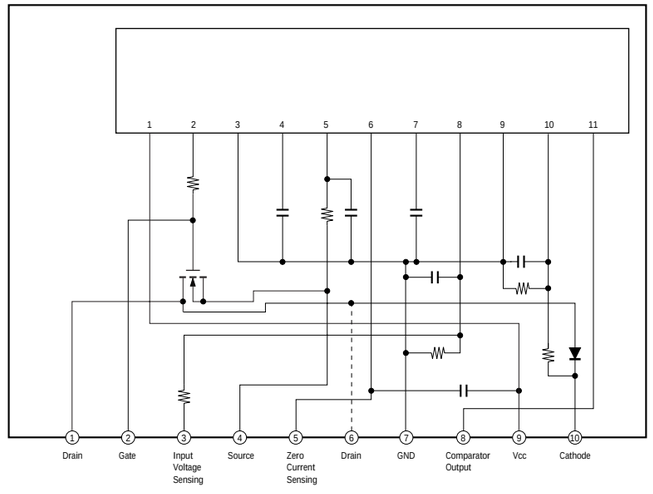
MC14053BF (IC516)



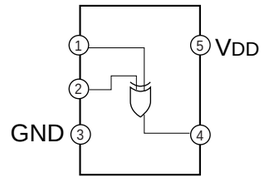
MC74HC175FEL (IC524)



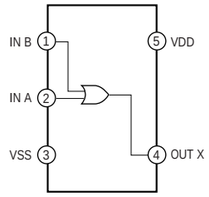
MZ1540 (IC601)



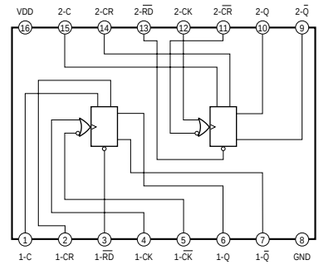
TC4S30F (IC522, 526)



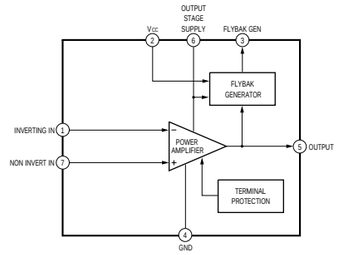
TC4S71F (IC2501)



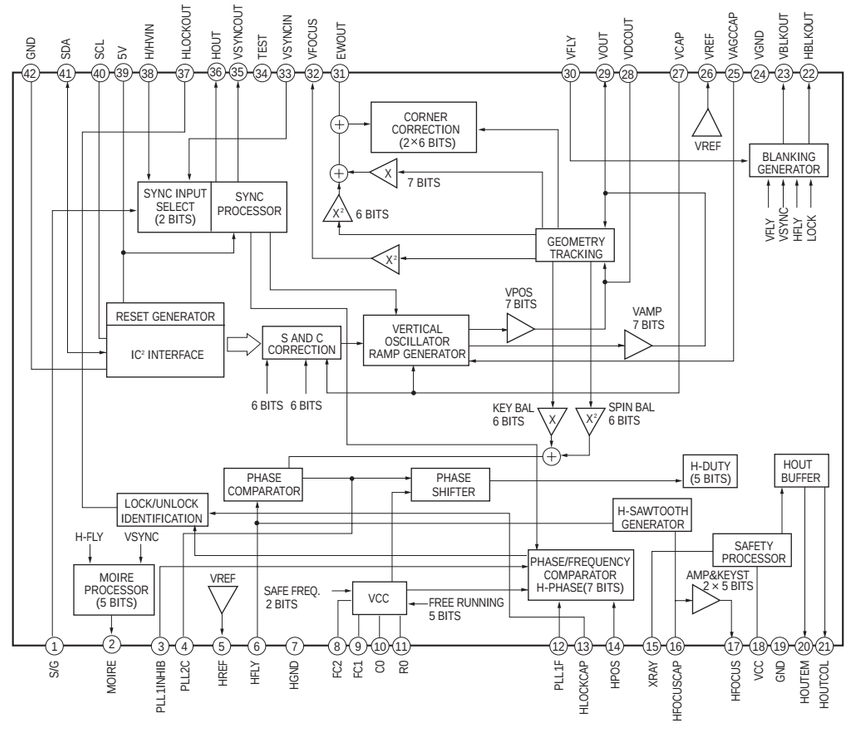
TC74HC4538/4538AF (IC503, 509, 510, 529)



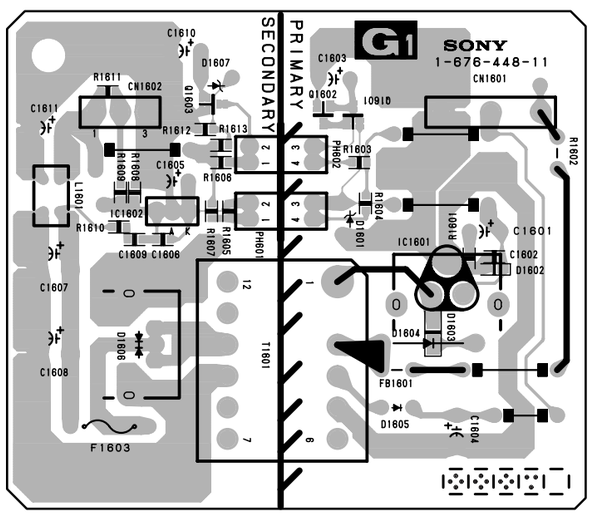
TDA8172 (IC2503)

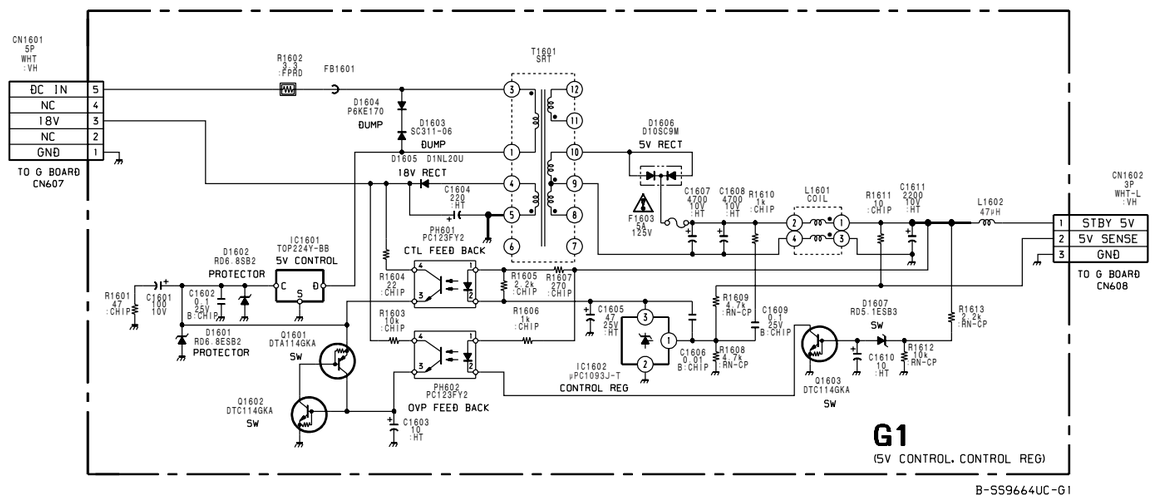


TDA9106 (IC507)



G1 BOARD

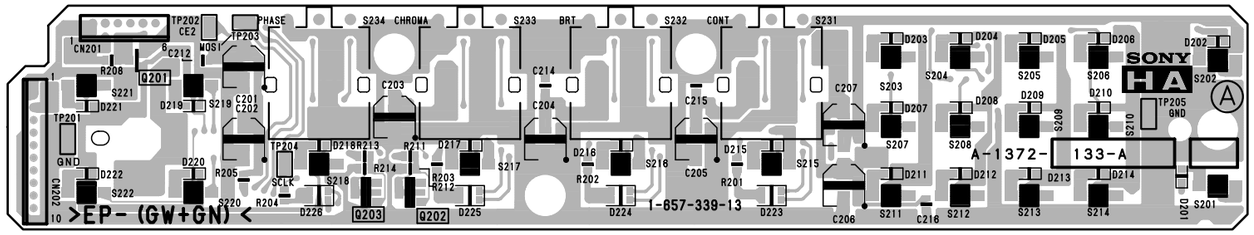




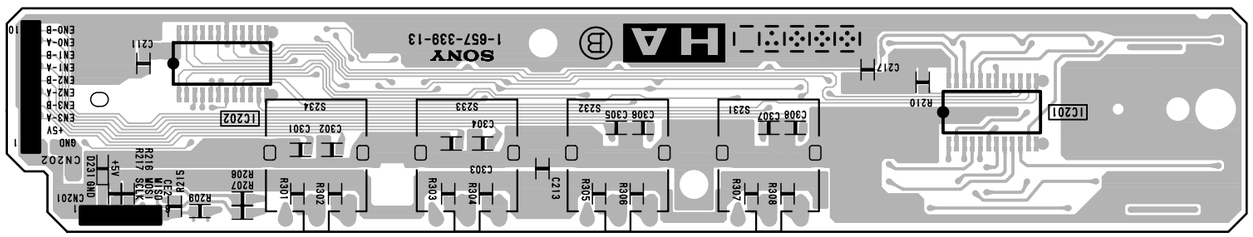
G1 –B SIDE–

SUFFIX: -11

HA BOARD

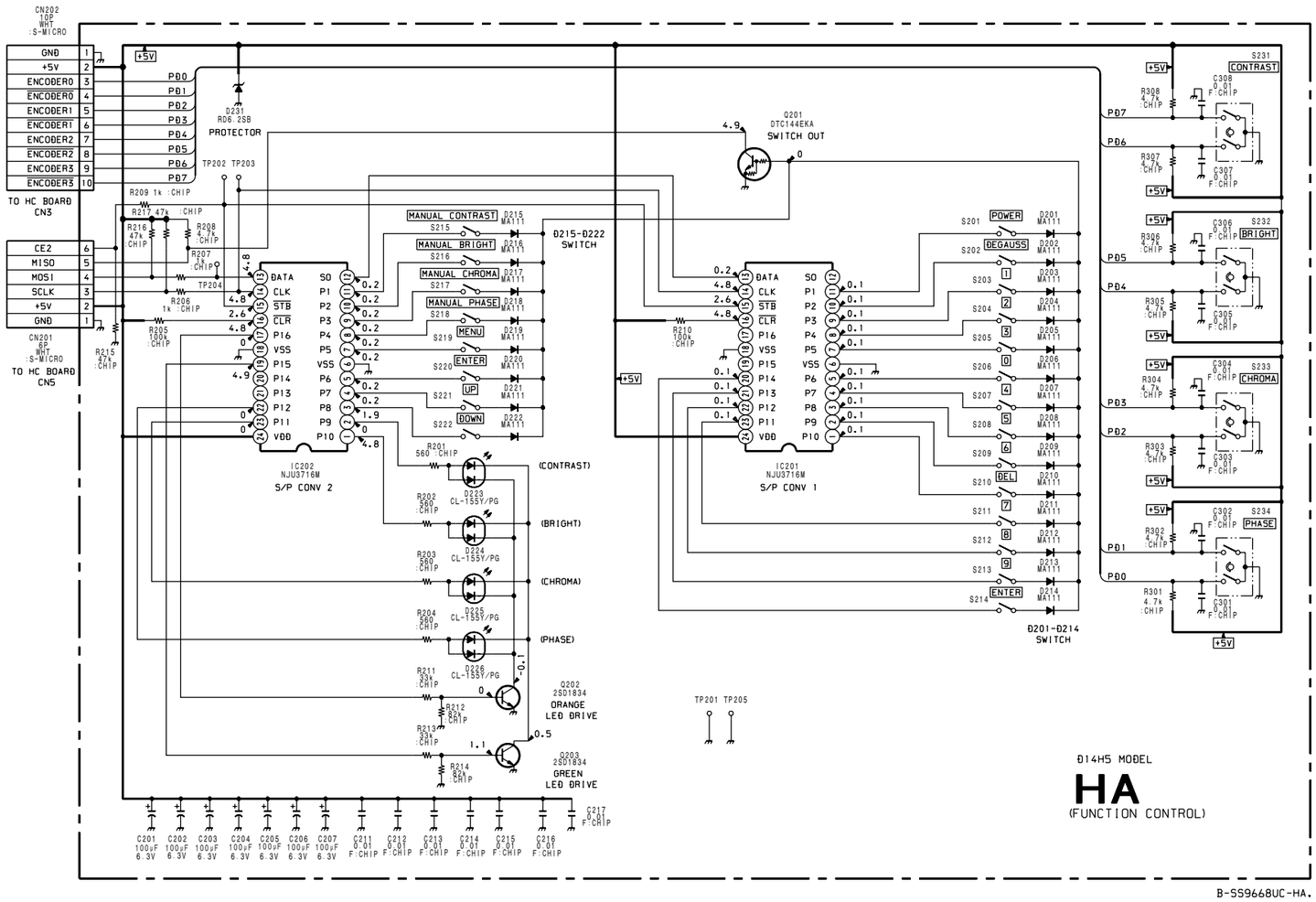


HA –A SIDE–
SUFFIX: -13

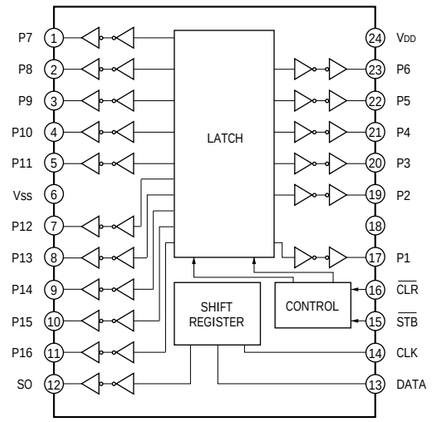


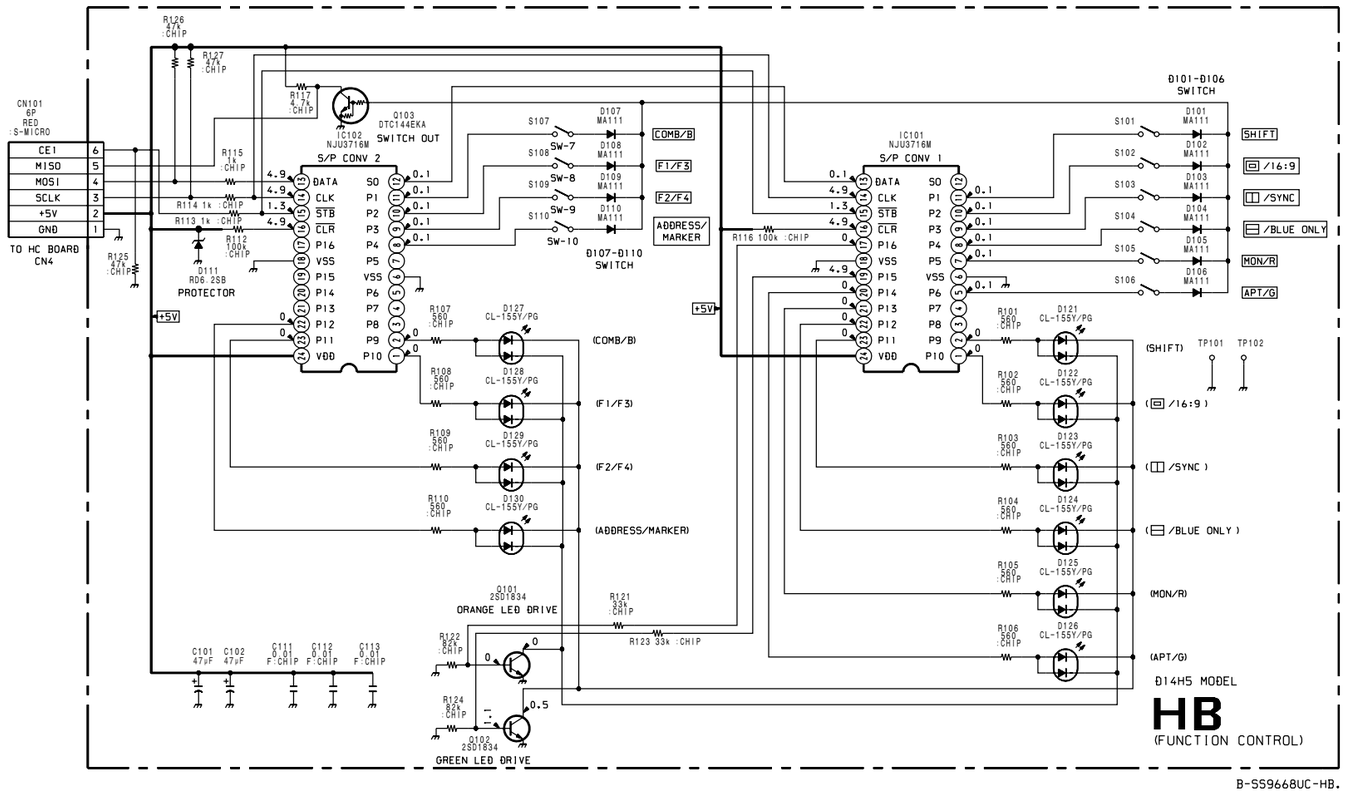
HA –B SIDE–
SUFFIX: -13

http://getMANUAL.com

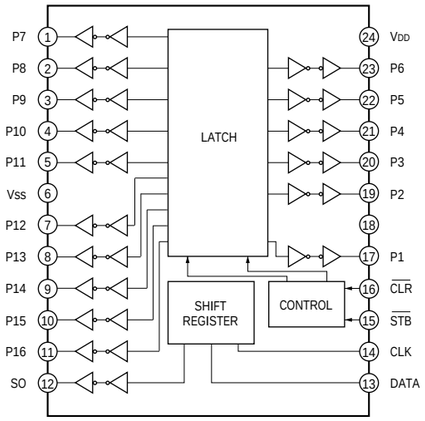


NJU3716M (IC201, 202)

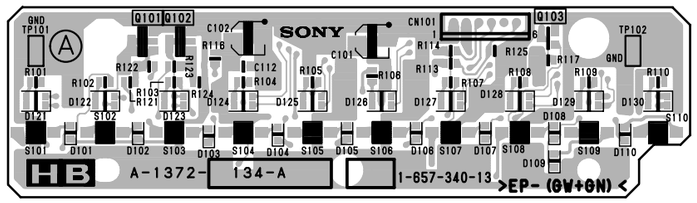




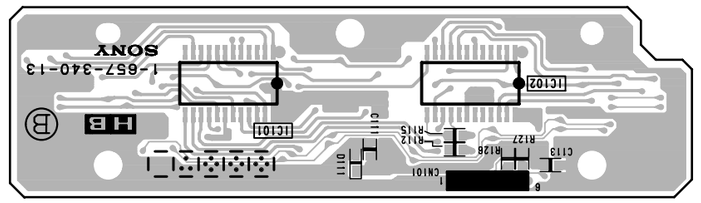
NJU3716M (IC101, 102)



HB BOARD



HB –A SIDE–
SUFFIX: -13



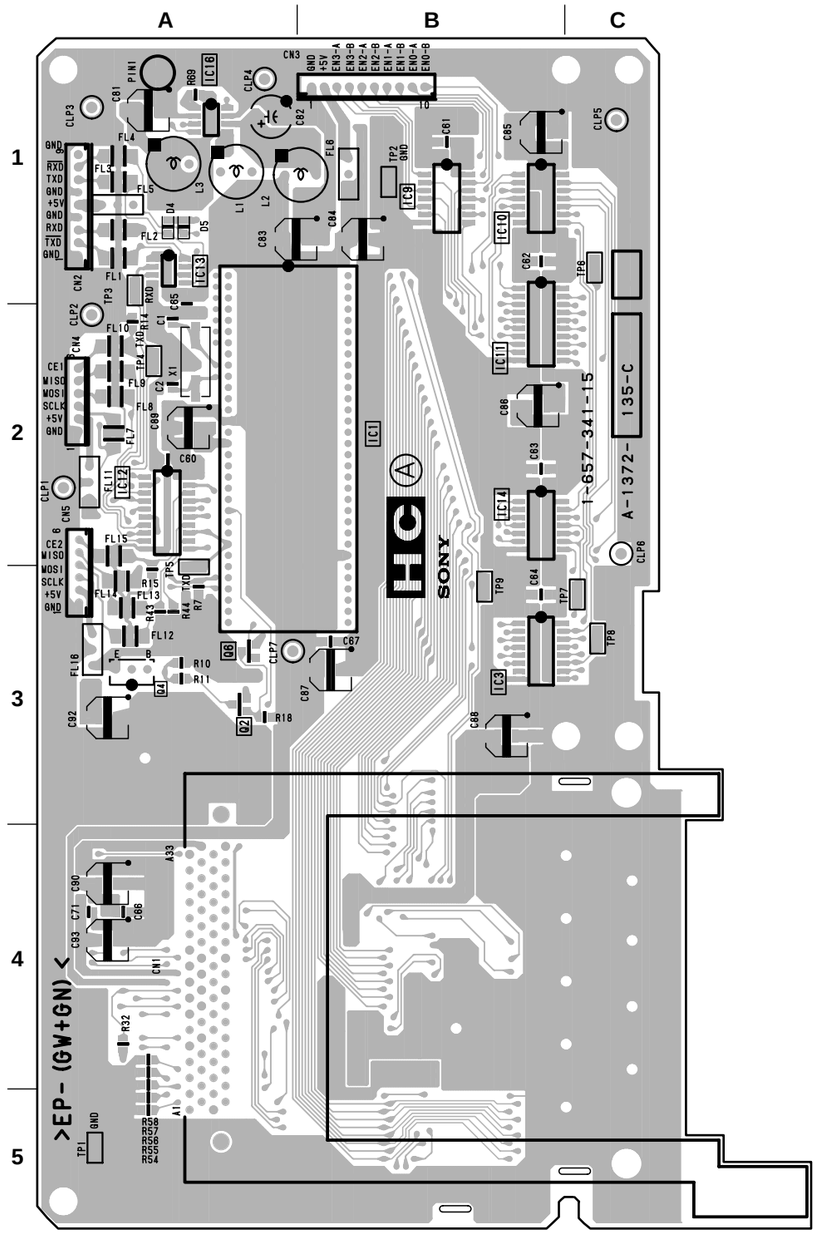
HB –B SIDE–
SUFFIX: -13

HC BOARD

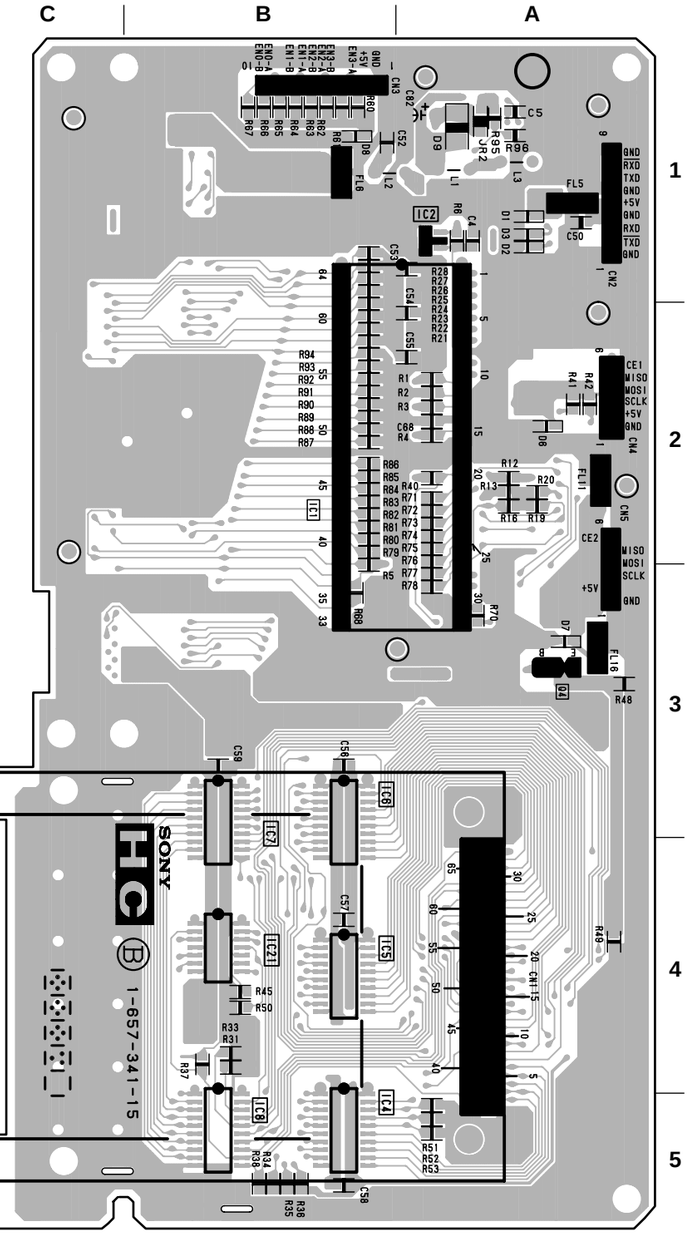
[HC BOARD]

* : B SIDE

D1	* A-1
D2	* A-1
D3	* A-1
D4	A-1
D5	A-1
D6	* A-2
D7	* A-3
D8	* A-2
D9	A-1
IC1	B-2
IC2	A-1
IC3	B-3
IC4	* B-5
IC5	* B-4
IC6	* B-3
IC7	* B-3
IC8	* B-5
IC9	B-1
IC10	B-1
IC11	B-2
IC13	A-1
IC14	B-2
IC21	* B-4
Q4	A-3
TP2	A-1
TP3	A-1
TP4	A-2
TP6	C-1
TP7	C-3
TP8	C-3
TP9	B-3

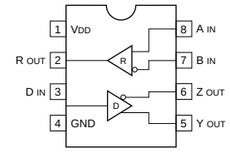


HC –A SIDE–
SUFFIX: -15

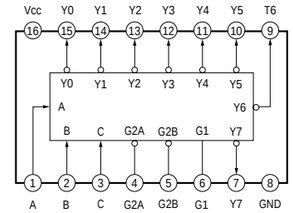


HC –B SIDE–
SUFFIX: -15

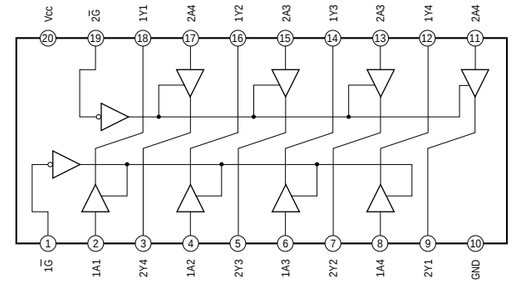
LTC490CS8 (IC13)



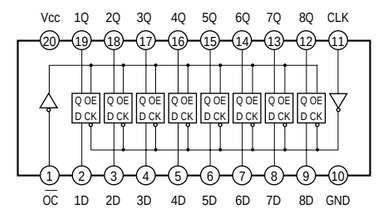
TC74VHC138F (EL) (IC3)

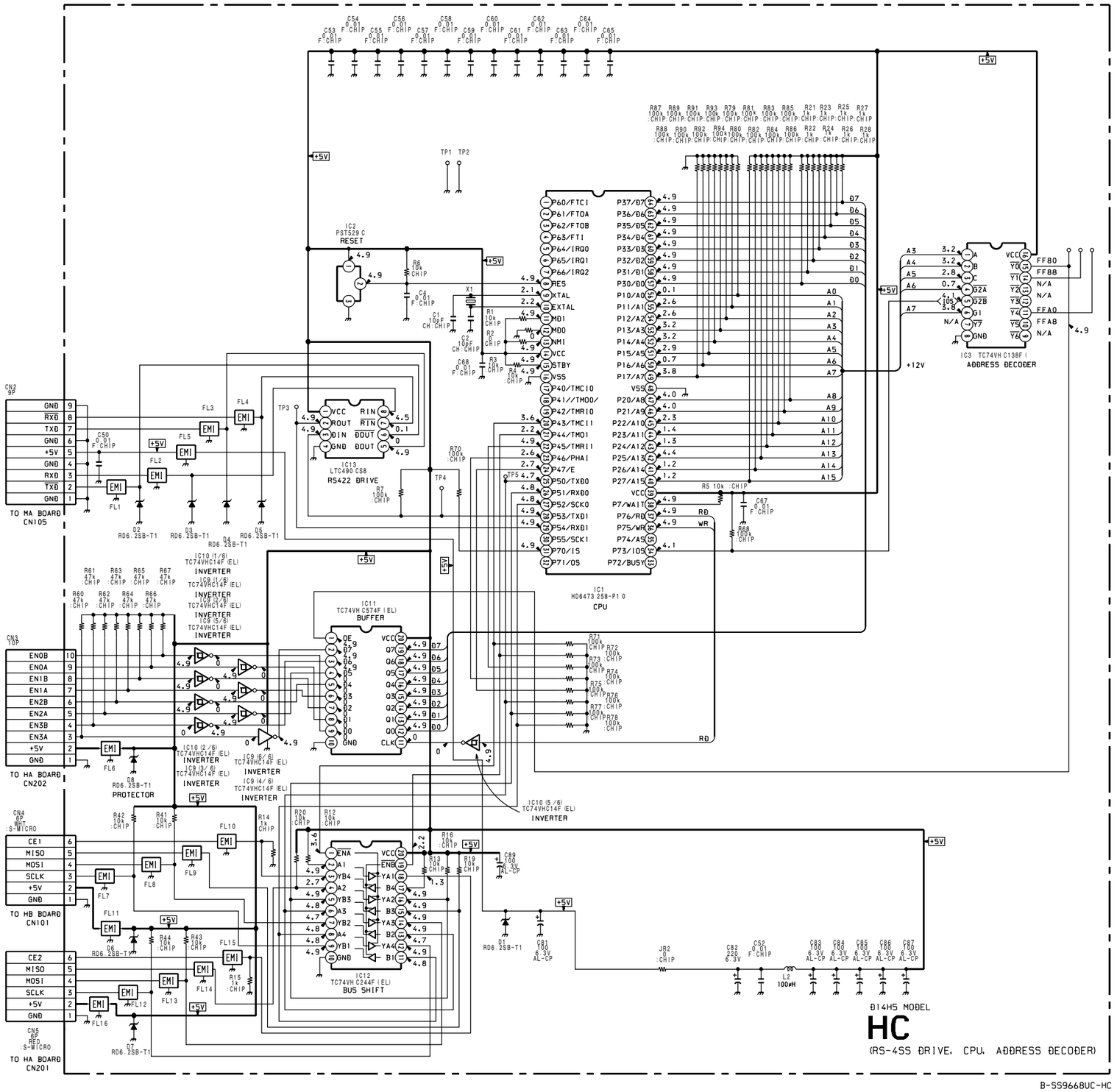


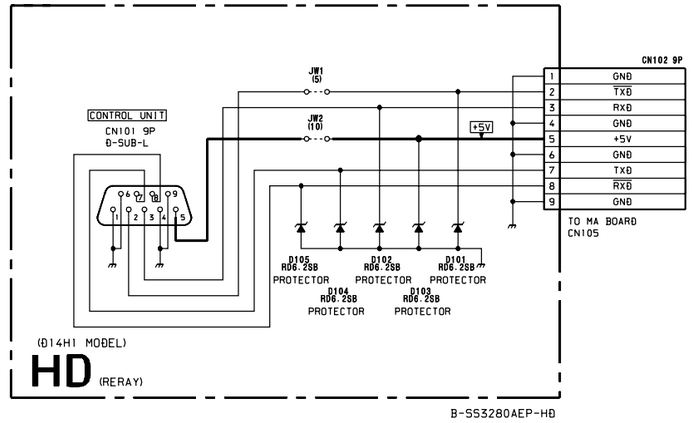
TC74VHC244F (EL) (IC12)

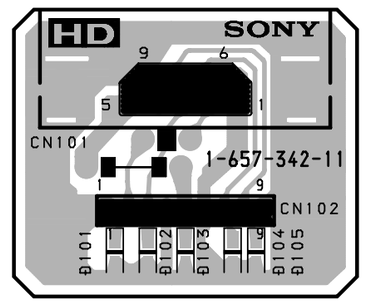


TC74VHC574F (EL) (IC11)



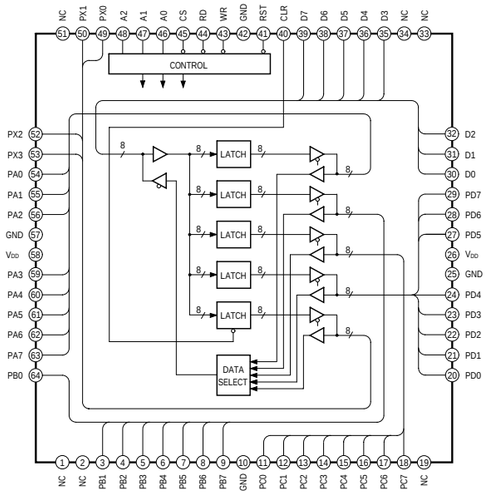




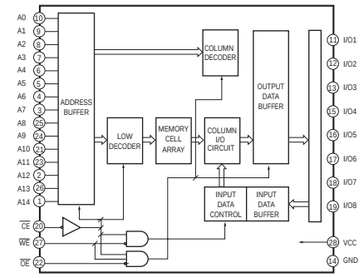


HD –B SIDE–
SUFFIX: -11

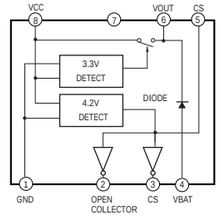
CXD1095BQ (IC112)



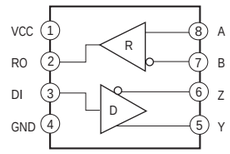
LC35256DM-70-TLM (IC111)



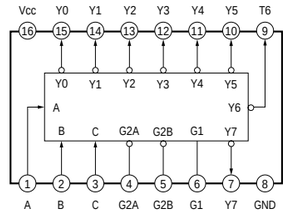
MM102BFB (IC110)



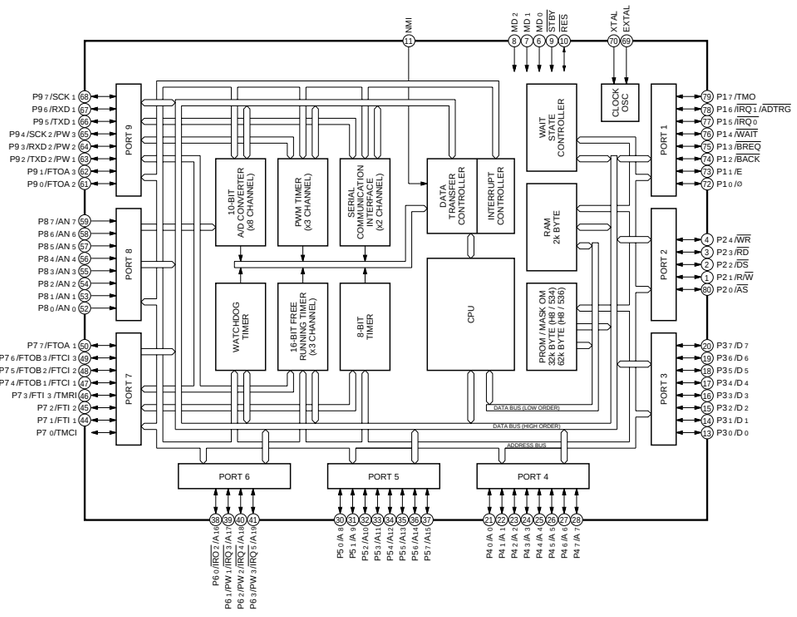
MAX490ECSA (IC113)



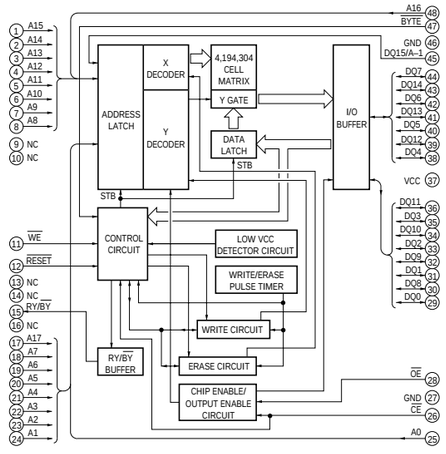
TC74VHC138F (FL) (IC109)



HD6435368AX06M (IC106)



MBM29F400BC-90PF (IC108)

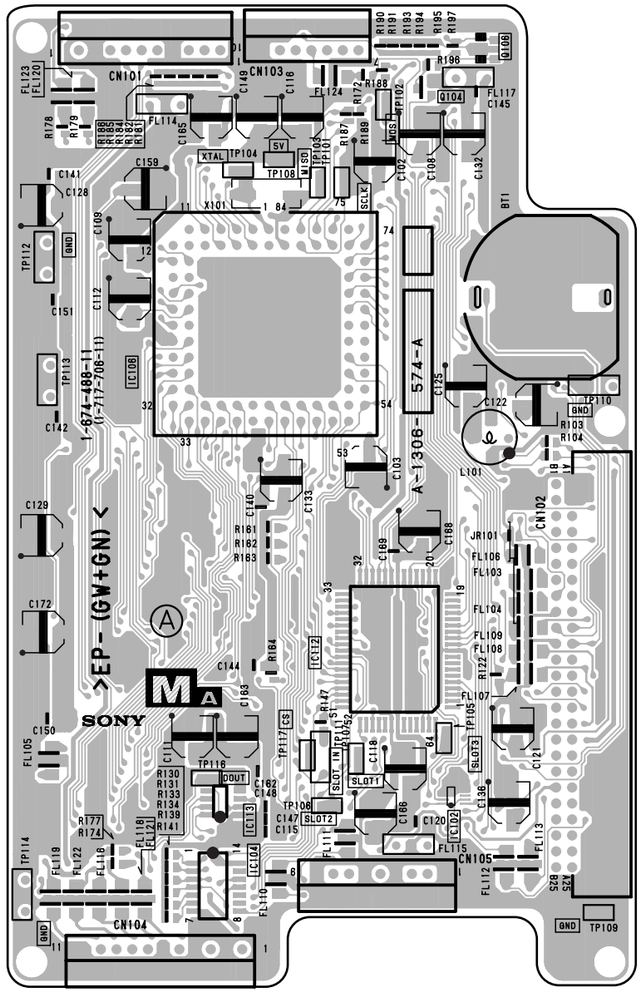


MA BOARD

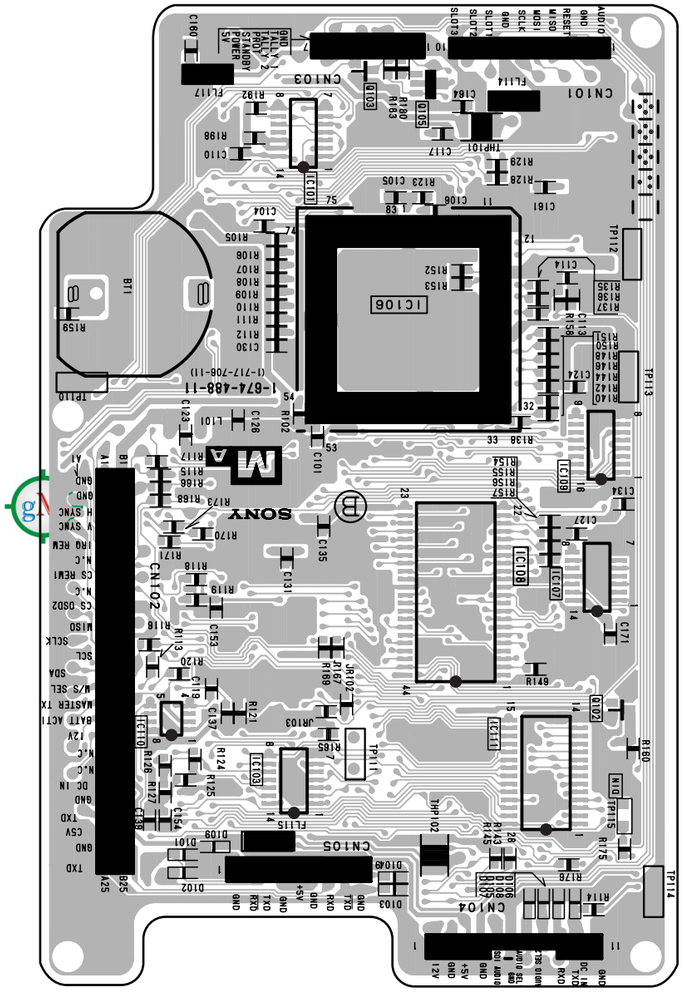
[MA BOARD]

* : B SIDE

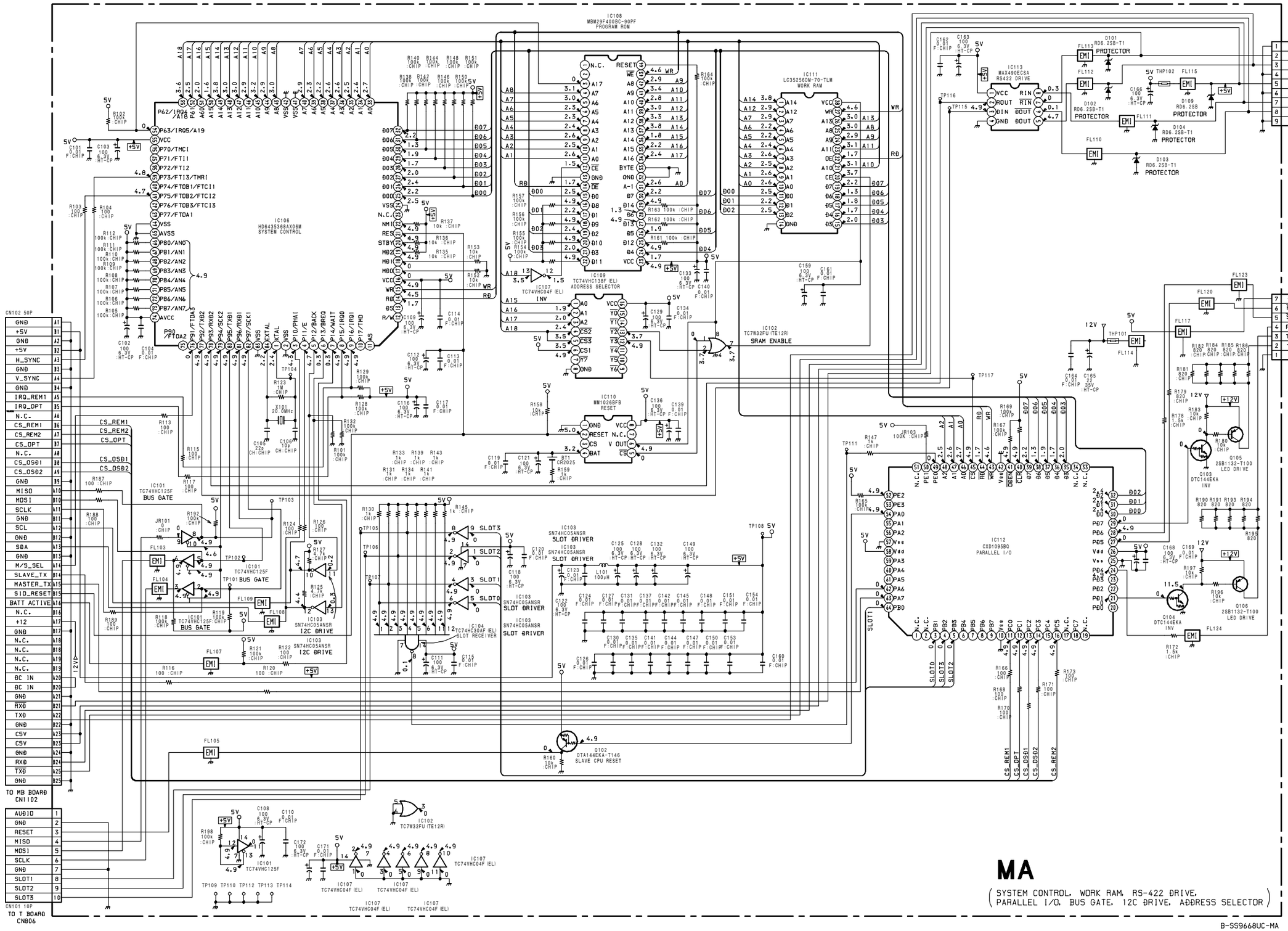
D101	C-4
D102	C-4
D103	* B-4
D104	* B-4
D105	* A-5
D106	* A-5
D107	* A-5
D108	* A-5
D109	C-4
IC101	* B-1
IC102	C-4
IC103	* B-4
IC104	* A-4
IC106	B-2
IC107	* A-3
IC108	* A-3
IC109	* A-3
IC110	* C-3
IC111	* A-4
IC112	B-3
IC113	A-4
Q102	* A-4
Q103	* B-1
Q104	C-1
Q105	* B-1
Q106	C-1
TP101	B-1
TP102	B-1
TP103	B-1
TP104	B-1
TP105	B-4
TP106	B-4
TP107	B-4
TP108	B-1
TP109	C-5
TP110	C-2
TP111	B-4
TP112	A-2
TP113	A-2
TP114	A-5
TP115	* A-5
TP116	A-4
TP117	B-4



MA –A SIDE–
SUFFIX: -11



MA –B SIDE–
SUFFIX: -11

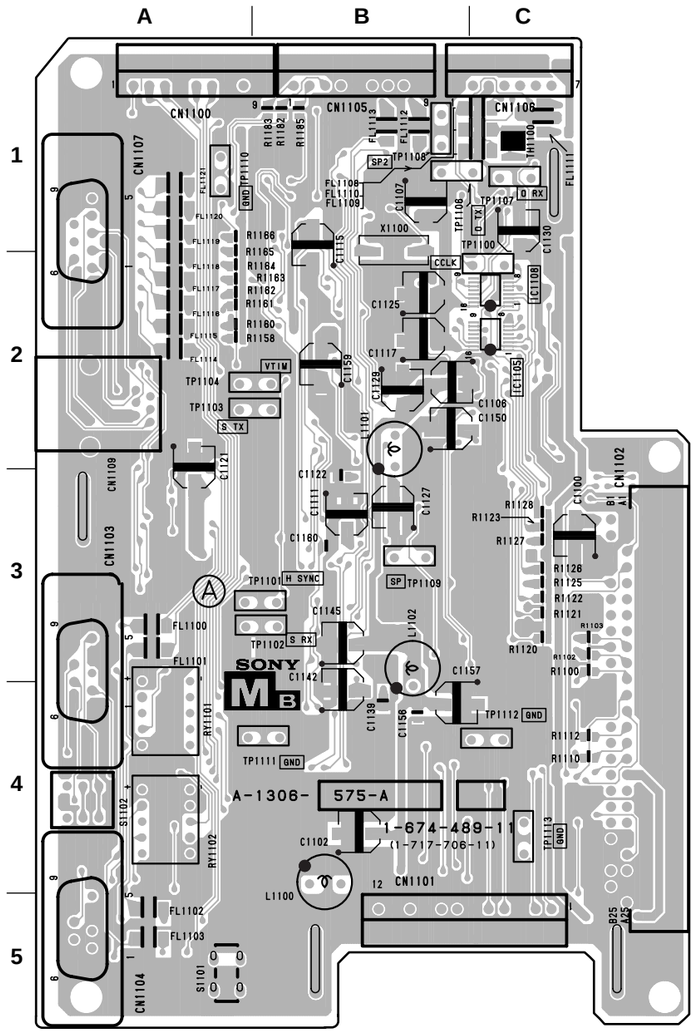

IC108
M5M29F400BC-90PF
PROGRAM ROM
IC106
HD6435368AX06M
SYSTEM CONTROL
IC109
TC74VHC138F (EL)
ADDRESS SELECTOR
IC110
MM1026BFB
RESET
IC111
LC352560M-70-TLM
WORK RAM
IC112
CXD1095BQ
PARALLEL I/O
IC113
MAX490ECSA
RS422 DRIVE
IC101
TC74VHC125F
BUS GATE
IC102
TC7W32FU (TE12R)
SRAM ENABLE
IC103
SN74HC05ANSR
SLOT DRIVER
I2C DRIVE
IC104
TC74HC30AF (EL)
SLOT RECEIVER
IC107
TC74VHC04F (EL)
INV
Q101
DTA144EKA-T146
SLAVE CPU RESET
Q102
DTA144EKA-T146
SLAVE CPU RESET
Q103
DTC144EKA
INV
Q104
DTC144EKA
INV
Q105
2SB1132-T100
LED DRIVE
Q106
2SB1132-T100
LED DRIVE
D101
RD6.2SB-T1
PROTECTOR
D102
RD6.2SB-T1
PROTECTOR
D103
RD6.2SB-T1
PROTECTOR
D104
RD6.2SB-T1
PROTECTOR
D109
RD6.2SB
PROTECTOR
TO HD BOARD
CN102
TO HC BOARD
CN2
CN105 9P
GND
RXD
TXD
GND
+5V
GND
RXD
TXD
GND
TO YA BOARD
CN901
TO YB BOARD
CN902
CN103
7P
RED:L
:S-MICRO
CN102 50P
TO MB BOARD
CN102
CN101 10P
TO T BOARD
CN806
AUDIO
RESET
MISO
MOSI
SCLK
SLOT1
SLOT2
SLOT3
MA
SYSTEM CONTROL. WORK RAM. RS-422 DRIVE.
PARALLEL I/O. BUS GATE. I2C DRIVE. ADDRESS SELECTOR
B-S59668UC-MA

[MB BOARD]

* : B SIDE

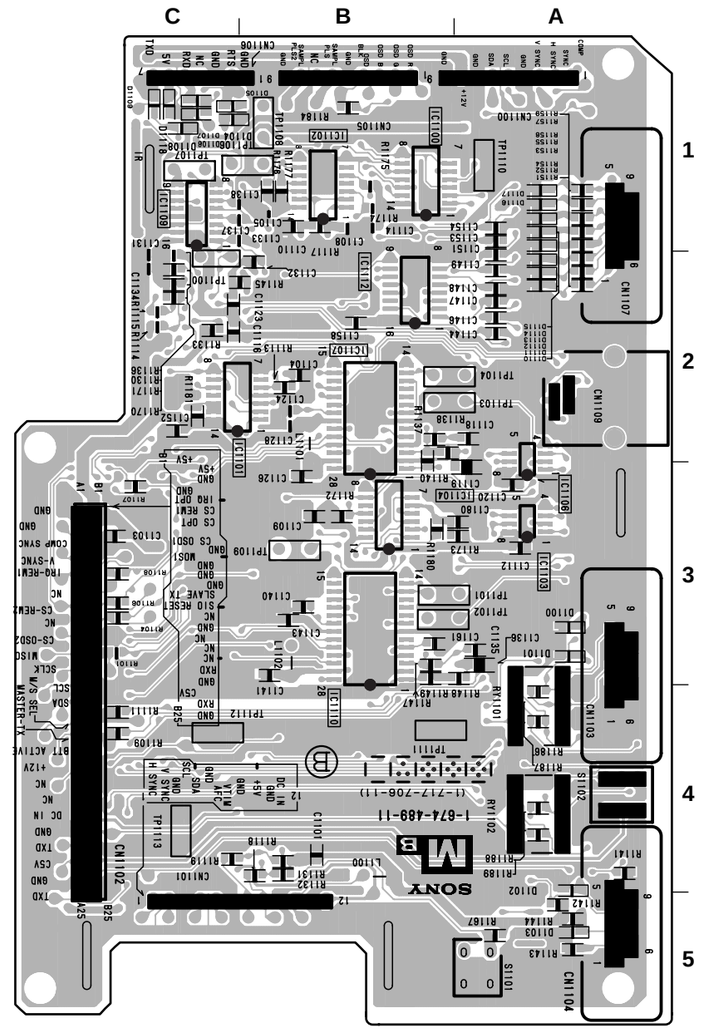
D1100	* A-3
D1101	* A-3
D1102	* A-4
D1103	* A-5
D1104	* C-1
D1105	* C-1
D1106	* C-1
D1107	* C-1
D1108	* C-1
D1109	* C-1
D1110	* A-2
D1111	* A-2
D1112	* A-2
D1113	* A-2
D1114	* A-2
D1115	* A-2
D1116	* A-1
D1117	* A-1
D1118	* C-1
IC1100	* B-1
IC1101	* A-1
IC1102	* B-1
IC1103	* A-3
IC1104	* B-3
IC1105	C-2
IC1106	* A-2
IC1107	* B-2
IC1108	C-2
IC1109	* C-1
IC1110	* B-3
IC1112	* B-2
TP1100	C-2
TP1101	B-3
TP1102	B-3
TP1103	B-2
TP1104	B-2
TP1106	B-1
TP1107	C-1
TP1108	C-2
TP1109	B-3
TP1110	C-2
TP1111	B-4
TP1112	C-4
TP1113	C-4

MB BOARD



MB –A SIDE–

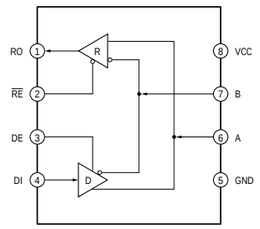
SUFFIX: -11



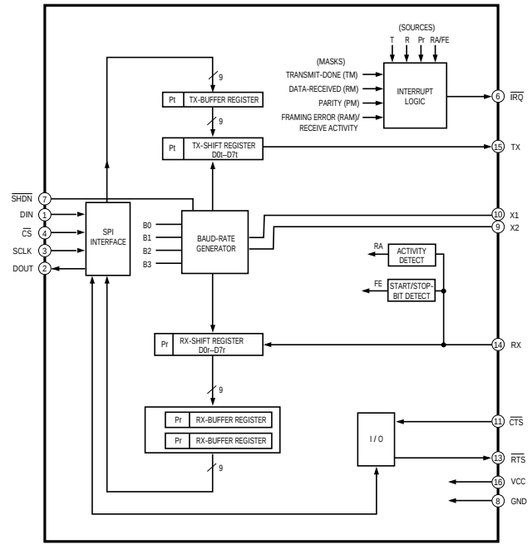
MB –B SIDE–

SUFFIX: -11

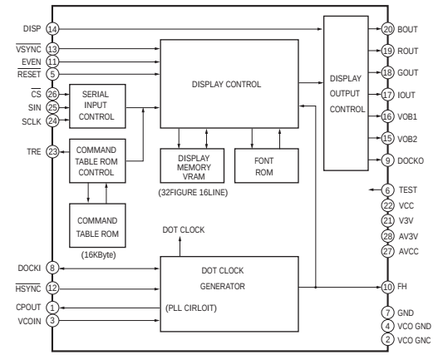
MAX487ECSA (IC1103, 1106)



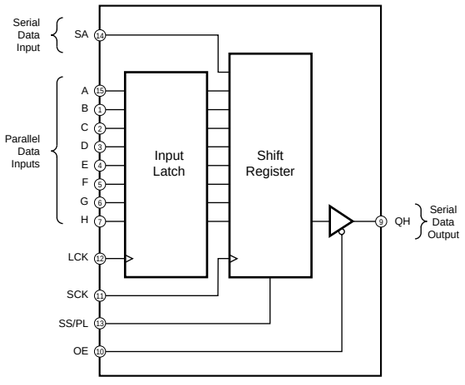
MAX3100CEE (IC1105, 1108)

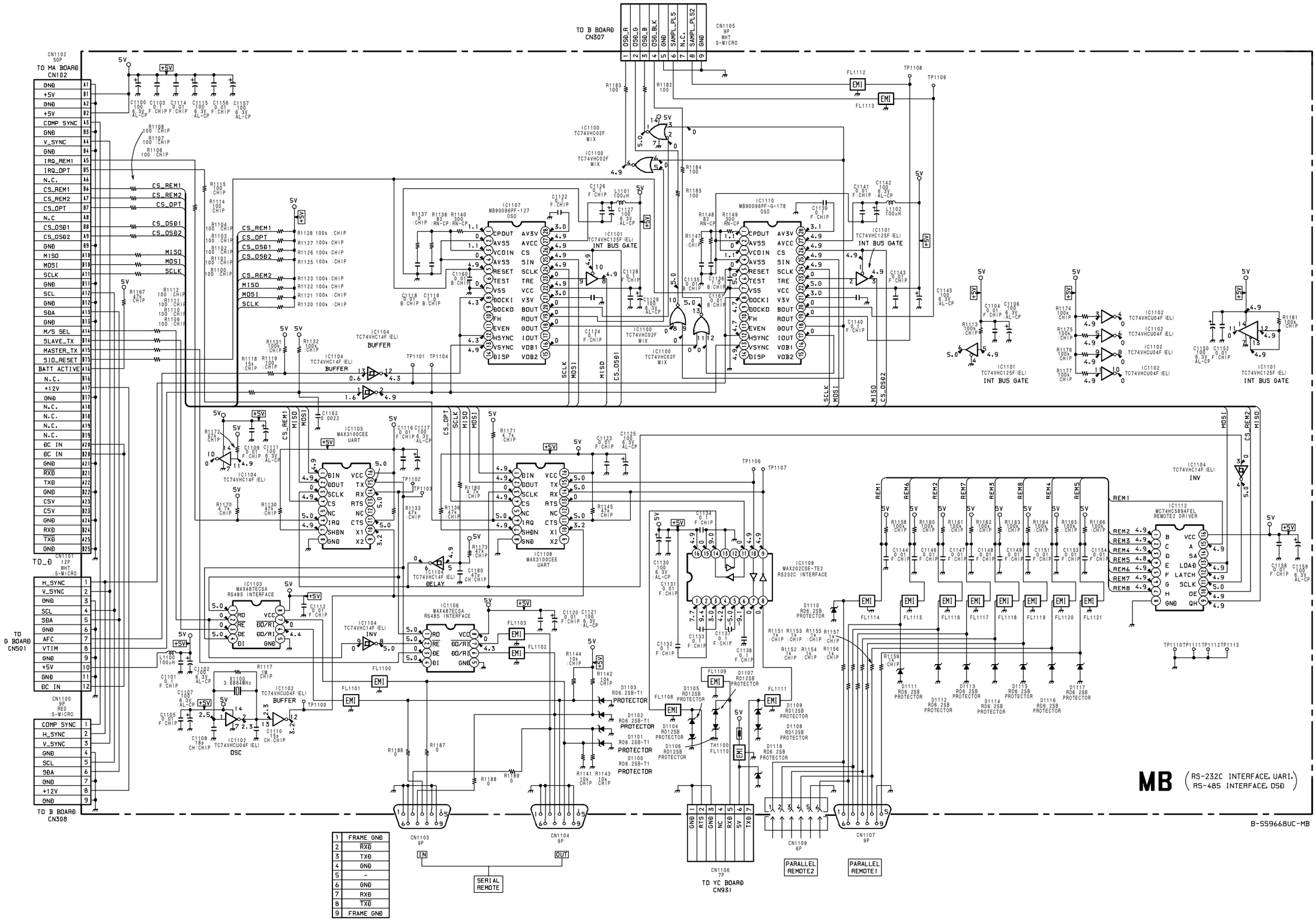


MB90096PF-127/G-178 (IC1107, 1110)

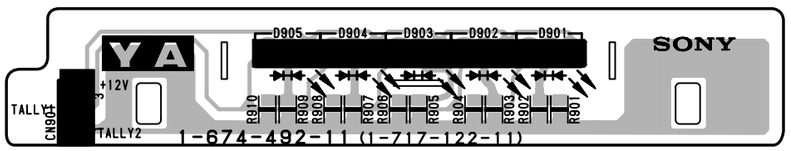


MC74HC589AFEL (IC1112)

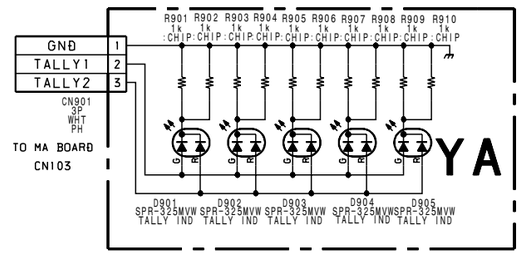




1	FRAME GND
2	RXD
3	TXD
4	GND
5	-
6	GND
7	RXD
8	TXD
9	FRAME GND



YA –B SIDE–
SUFFIX: -11



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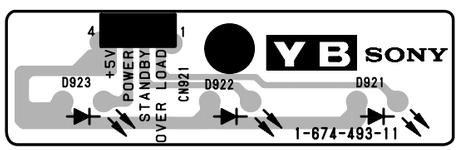

YB –B SIDE–
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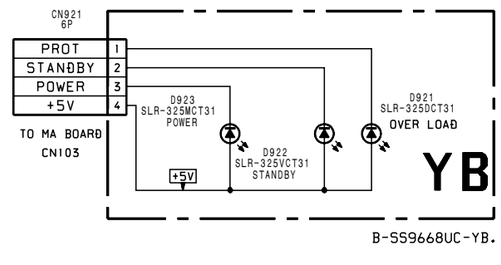

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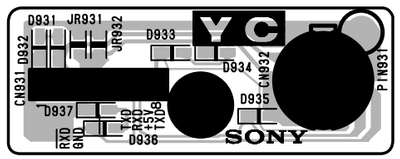
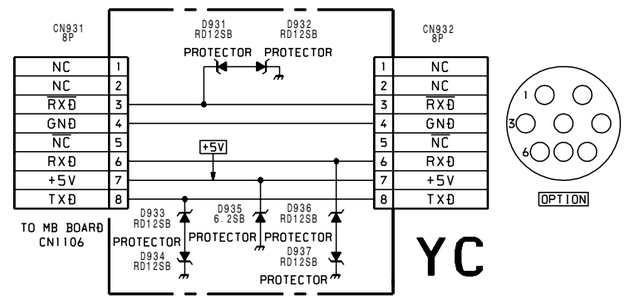


YC –B SIDE–
SUFFIX: -11



B-SS9668UC-YC.

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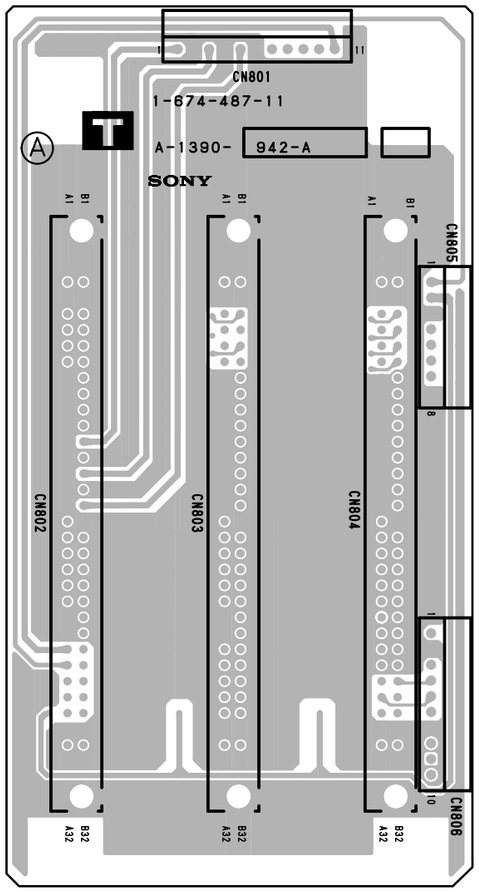
T T

T BOARD



T –A SIDE–
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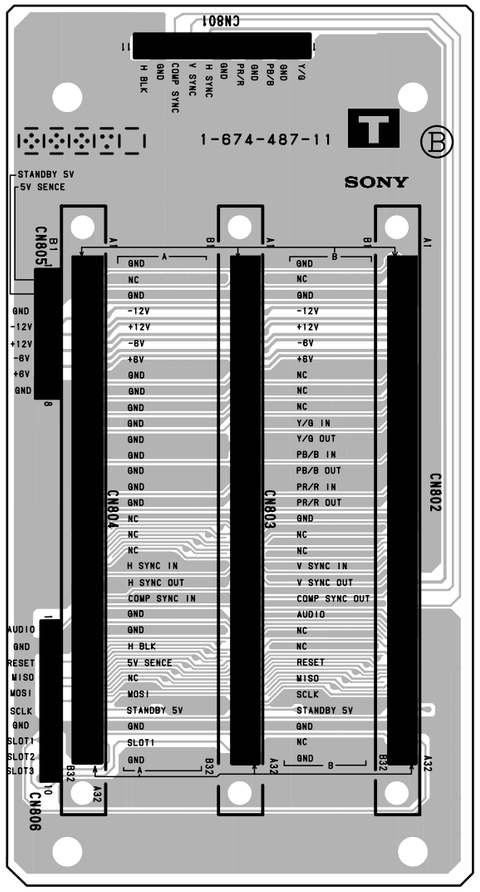

T –B SIDE–
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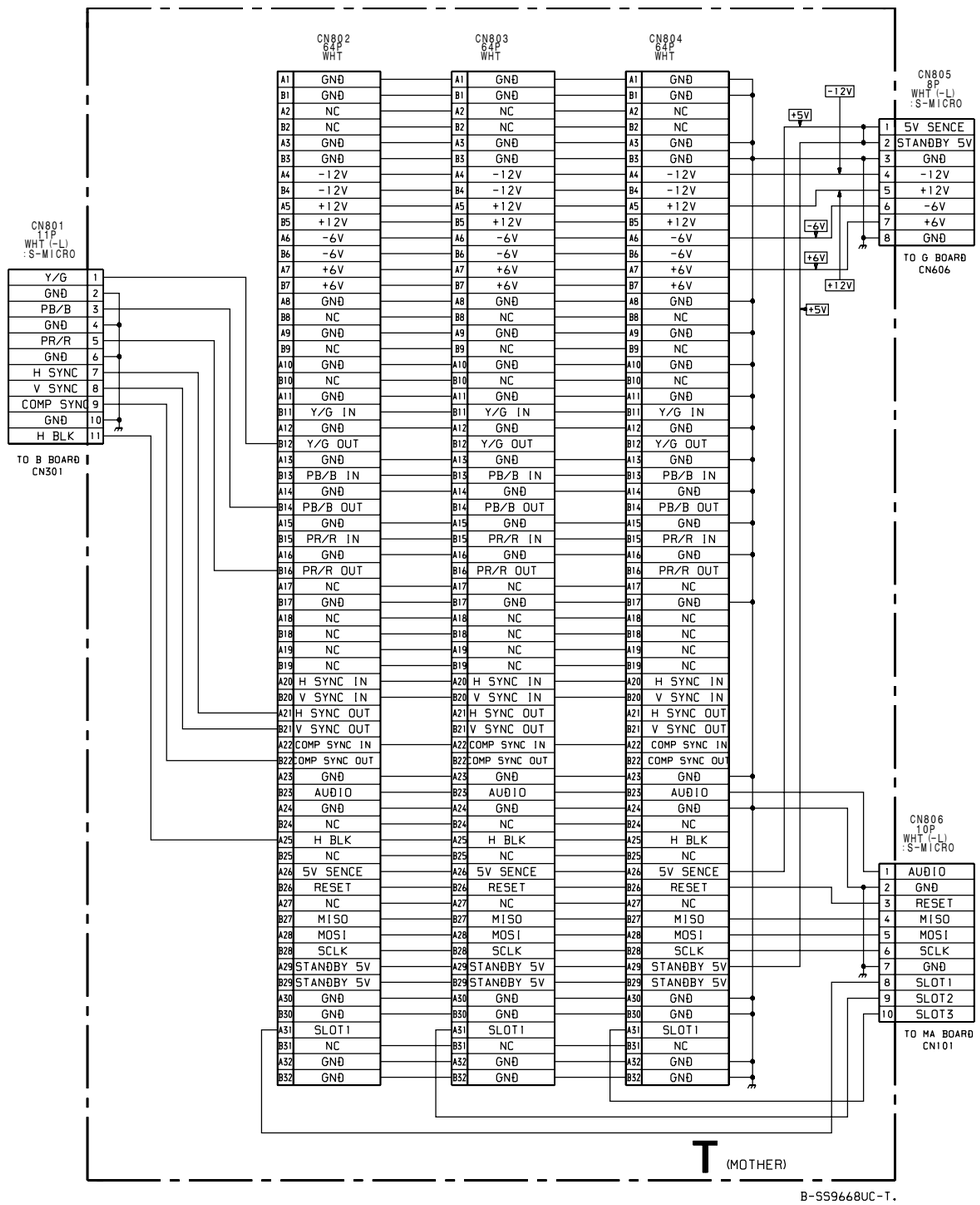

B-SS9668UC-T.

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